ETHNIC DIFFERENCES IN PARENT INVOLVEMENT ARE MODERATED BY TYPE OF INVOLVEMENT SCALE

A Dissertation

by

SHUK WA WONG

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2005

Major Subject: School Psychology

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Approved by:

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ABSTRACT

Ethnic Differences in Parent Involvement Are Moderated

by Type of Involvement Scale. (August 2005)

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This study examines ethnic group differences on different dimensions of parent-rated and teacher-rated parent involvement after adjusting for the influence of family socioeconomic factors, and the role of involvement scale in moderating ethnic differences in parent involvement. Parents and teachers provided information on parent involvement for 476 first-grade children attending one of three school districts (1 urban, 2 small city) in Southwest Texas, who were recruited in two sequential cohorts to participate in a larger longitudinal study on the impact of grade retention on academic achievement and psychosocial outcomes. Parents rated the following four dimensions of parent involvement: Positive Perceptions about School, Communication, Parent-Teacher Shared Responsibility, and Parent School-Based Involvement. Teachers rated the following three dimensions of parent involvement: Alliance, General Parent Involvement, and Teacher Initiation of Involvement. The two research hypotheses generated for this study were partially supported by the data. As predicted, controlling for parent education and employment status, the data showed significant ethnic/racial group differences in Communication (parent-rated), Alliance (teacher-rated), and

General Parent Involvement (teacher-rated). In addition, ethnic differences in parent involvement were moderated by the type of involvement for teacher ratings. However, contrary to prediction, no significant ethnic differences were found in Parent School-Based Involvement (parent-rated) whereas significant ethnic differences were noted in Parent-Teacher Shared Responsibility (parent-rated). In addition, ethnic differences in parent involvement were not moderated by the type of involvement for parent ratings. Current results demonstrated a low correspondence between parent ratings and teacher ratings on parents' school-based involvement. Possible explanations and implications for current findings and suggestions for future research were discussed.

ACKNOWLEDGMENTS

This research was supported in part by a grant to Dr. Jan Hughes from the National Institute of Child Health and Development (5 R01 HD39367-02). I wish to express my deepest gratitude to Dr. Jan Hughes for her valuable support and assistance from preparation to completion of the dissertation. I also wish to thank the dedicated Project Achieve crew for providing invaluable support to data collection and data entry. Last but not least, I would like to thank the superintendents, principals, teachers, and parents of the three participating school districts for providing precious assistance in collecting informative data about parent involvement.

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CHAPTER I

INTRODUCTION

There has been a wide gap in academic achievement levels among students from different ethnic groups. In particular, Hispanic American students often manifest lower achievement motivation, poorer attendance, and lower high school graduation rate while demonstrating higher truancy and dropout rates. Policy makers and educators seek earnestly for effective interventions to narrow student achievement gaps.

For the past two decades, research findings have provided convincing evidence that parents make significant contributions to their children's academic and socio-emotional outcomes. Results indicate that when parents participate at school and encourage or assist learning at home, children tend to be more successful at all grade levels. Specifically, parent participation in education is associated with increased student achievement, better school attendance, increased achievement motivation, reduced dropout rate, better emotional adjustment, and improved social behavior and interactions with peers (Cotton and Wikelund, 2001; Dornbusch & Ritter, 1988; Fan & Chen, 2001; Fantuzzo, Davis, & Ginsburg, 1995; Grolnick, Ryan, & Deci, 1991; Inger, 1992; Izzo et al., 1999; Marcon, 1999; Reynolds, 1991).

Much educational research has examined why some parents become involved in their children's education and others do not (Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Hoover-Dempsey & Sandler, 1997). Researchers have considered ethnicity as an

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This dissertation follows the style and format of the *Journal of School Psychology*.

essential family background factor that contributes to the observed variations in the nature and degree of parent involvement. However, results are inconsistent. On one hand, African-American and Hispanic parents, when compared with their White-Non-Hispanic counterparts, were found to have reduced contact with their children's schools (Floyd, 1998). Ethnic minority status was associated with teacher ratings of lower levels and quality of parent involvement (Kohl, Weissberg, Reynolds, & Kasprow, 1994). Teachers and principals tend to attribute lower levels of parent involvement among ethnic minority parents to a lack of motivation to cooperate, a lack of concern for their children's education, and a lower value placed on education (Clark, 1993; Lopez, 2001).

Other research, on the other hand, indicates that these attributions are erroneous. For example, a survey done by Chavkin and Williams (1993) of 682 African-American, 506 Hispanic, and 1,779 Anglo parents across six southwestern states showed that African-American and Hispanic parents not only strongly agreed with the importance of being involved in their children's education but also expressed a strong interest in assuming various parent-involvement roles (e.g., program supporter, home tutor, and audience). Although ethnic minority parents want to be actively involved in their children's education, they tend to believe that it is the school's responsibility to initiate efforts and opportunities to involve the parents at school. This factor may explain why ethnic minority parents, relative to non-minority parents, participate less in school-based parent involvement activities (Chavkin & Williams, 1993).

Inconsistent findings on ethnic differences in parent involvement can be attributed to five major shortcomings in the existing body of parent involvement

research (Fan & Chen, 2001; Fantuzzo, Tighe, & Childs, 2000; Reynolds, 1992; Wong & Hughes, 2005; Yan, 1999). First, inconsistencies in conceptualizing and measuring parent involvement render it difficult to integrate results across studies. Even when investigators examining the same aspect of parent involvement, they tend to measure it differently (Baker & Soden, 1998; Reynolds, 1992; Fan & Chen, 2001). Second, most existing measures of parent involvement are neither empirically based nor psychometrically robust (Kohl et al., 2000; Wong & Hughes, 2005). They often do not demonstrate adequate evidence of construct validity, internal reliability, or equivalence of factor structure across ethnic groups. Additionally, they often lack equivalent forms in languages other than English (Wong & Hughes, 2005). The language minority parents, particularly the Hispanic parents who demonstrate limited English proficiency, find it hard to provide accurate information concerning their involvement in their children's schooling. Third, most studies rely on single-reporter ratings which make them susceptible to unknown reporter biases (Kohl et al., 1994). A generally low correspondence among informants of parent involvement renders it hard to integrate research findings provided by different sources (Reynolds, 1992). Fourth, most studies investigating ethnic differences in parent involvement have confounded ethnicity with other socioeconomic variables such as parents' education level, parents' employment status, and family income. Thus, it is hard to separate the effect of ethnicity from that of socioeconomic status (Hill, 2001). Lastly, levels of parent involvement are not at all uniform across ethnic groups. Hispanic parents, for example, often report lower levels of school involvement than African American parents (Costas, 1991; Griffith, 1998).

Attempts to integrate research findings collected from different ethnic minority groups under the name of *minority parents* will be misleading.

Another important explanation for inconsistencies in observed ethnic differences in parent involvement is that parent involvement may be manifested differently by different ethnic groups. That is, parents from different ethnic groups may demonstrate different levels of involvement depending on the type of involvement opportunity (e.g., home based versus school based). Regarding overall level of parent involvement, White-Non-Hispanic parents were higher than ethnic minority parents (particularly African-American and Hispanic mothers; Kerbow & Bernhardt, 1993; Muller & Kerbow, 1993; Zellman & Waterman, 1998). However, when specific dimensions of parent involvement were investigated, while White-Non-Hispanic parents and African-American parents reported significantly greater involvement at school than Hispanic parents (Sheldon, 2002; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Zellman & Waterman, 1998), African-American parents reported similar to or greater levels of involvement at home than their White-Non- Hispanic and Hispanic counterparts (Keith et al., 1993; Ho & Willms, 1996; Sheldon, 2002; Watkins, 1997). Although Hispanic parents endorse similar levels of importance to education and attitudes towards parent involvement as compared with White-Non-Hispanic parents and African-American parents (Chavkin & Williams, 1993; Tinkler, 2002), they often report the least involvement in school (Klimes-Dougan, 1992; Steinberg, Lamborn, Dornbusch, & Darling, 1992).

Purpose and Significance of This Study

The purpose of this study was to investigate ethnic group differences on different dimensions of parent involvement based on parent report (i.e., on parents' positive perceptions towards school, communication, parent-teacher shared responsibilities, and parent school-based involvement) and teacher report (i.e., on alliance, general parent involvement, and teacher initiation) respectively after controlling for the influence of family socioeconomic variables that have demonstrated consistent associations with levels of parent involvement such as parents' education level and employment status. One goal of this study was to examine the effect of the type of parent involvement on ethnic group differences in parent-rated and teacher-rated home-school involvement. Results would provide an empirical basis for developing ethnically relevant interventions to enhance parent involvement.

This study addressed the major shortcomings identified in the current body of parent involvement research and made several improvements over previous studies. First, the parent involvement measure used in this study is empirically derived and theoretically sound with adequate evidence of construct validity and internal consistency. The measure, which is available in both English and Spanish, also demonstrates adequate evidence of equivalence of factor structure across White-Non-Hispanic parents and Hispanic parents. Second, multiple informants (i.e., parent and teacher) were involved in providing information over a variety of parent involvement practices, which helped offset unknown reporter biases when only one reporter was involved (Kohl et al., 1994). Third, previous studies have not examined the role that the type of parent

involvement plays in accounting for the observed differences in the levels of parent involvement across ethnic groups after adjusting for the effect of family background factors. Results would facilitate the understanding of variations in parent involvement from the perspective of parents' cultural and social class characteristics. Results would also inform the development of more culturally sensitive interventions to enhance parent involvement.

Research Hypotheses

Consistent with existing literature on parent involvement, the following hypotheses were generated for this study:

1. After controlling for the influence of family socioeconomic factors (i.e., parents' education level and employment status), ethnic groups will differ in both parent-rated and teacher-rated parent involvement. Specifically, White-Non-Hispanic parents will demonstrate a significantly higher level of involvement than minority parents whereas African-American parents will demonstrate a significantly higher level of involvement than Hispanic parents, particularly on parent-rated Communication and Parent School-Based Involvement as well as teacher-rated Alliance and General Parent Involvement.
2. The main effect of ethnicity on parent involvement will be qualified by a significant interaction between ethnic group membership and the parent involvement scale, suggesting that ethnic groups differ only in specific

dimensions of parent involvement while demonstrating similar levels of involvement in other dimensions.

CHAPTER II

LITERATURE REVIEW

Major Shortcomings in Current Parent Involvement Research

In view of the existing wide achievement gap between ethnic majority students and their ethnic minority counterparts, policy makers and educational practitioners have made strenuous efforts to close this achievement gap. Parent involvement in education (PI), or home-school collaboration, is viewed as a promising means to achieving this goal. During the past few decades, educational researchers have investigated the components, contributing factors, and effects of parent involvement across ethnic, gender, and age groups. However, results are often inconsistent and inconclusive. Reviewers have identified three major shortcomings in the current body of parent involvement research that account for these inconsistencies: inconsistent conceptualization and measurement of parent involvement; psychometrically inadequate measures of parent involvement; and low correspondence among sources of parent involvement information (Fan & Chen, 2001; Fantuzzo, Tighe, & Childs, 2000; Reynolds, 1992; Yan, 1999).

Inconsistent conceptualization and measurement of PI. Concerns over inconsistent definitions of parent involvement are not new. A number of researchers have complained of the lack of consensus over a clear and adequate definition of parent involvement in the existing body of parent involvement research (e.g., Baker & Soden, 1998; Fan, 2001; Fantuzzo, Tighe, & Childs, 2000; Gettinger & Guetschow, 1998; Kohl, Lengua, & McMahon, 2000; Reynolds, 1992). Diverse theoretical conceptualizations,

above and beyond the goals and limitations of individual studies, contribute to this inconsistency.

Some researchers have concentrated on the behavioral aspects of parent involvement, such as attending parent-teacher conferences or special school events, volunteering in the classroom or school activities, talking or writing to teachers, assisting with homework, engaging the child in learning activities at home, and taking the child to the library. Other researchers have concentrated on aspects of parental attitudes, such as the importance of education, educational aspirations for their children, perceptions of self-efficacy, endorsement of the school or teachers, and satisfaction towards teacher-provided opportunities for involvement. In other instances parent involvement has been referred to as the quality of parent-teacher relationships or the amount and quality of parent-child interactions.

During the past few decades, researchers have proposed assessment approaches that address distinct aspects of parent involvement in education. For example, Grolnick and Slowiaczek (1994) conceptualized three dimensions of parent-initiated school involvement. These include: (a) *behavior* (participating in school activities and helping with schoolwork at home); (b) *cognitive-intellectual* (exposing the child to intellectually stimulating activities); and (c) *personal* (staying informed about the child's schooling). Information concerning these parent involvement activities is collected from teacher and student reports.

Epstein (1995) delineated six dimensions of school-initiated parent-school partnerships. These include: (a) *parenting* (helping families provide home-based support

for learning); (b) *communicating* (designing effective school-home communication about school programs and progress); (c) *volunteering* (recruiting and organizing parents to support school goals and child development); (d) *home learning* (providing information to families to help students at home with homework); (e) *decision making* (involving parents in school decisions, developing parent leaders and representatives); and (f) *collaborating with the community* (integrating community resources and services to strengthen school programs, family practices, and student development). Information concerning these parent involvement activities is collected from teacher reports.

Eccles and Harold (1996) described five dimensions of parent-initiated school involvement. These include: (a) *monitoring* (how parents respond to the teacher's requests for helping their children with school work such as checking homework or listening to them read); (b) *volunteering* (parents' level of participation in activities at school including PTO); (c) *involvement* (parents' involvement in their children's daily activities related to homework); (d) *contacting the school about their children's progress*; and (e) *contacting the school to find out how to give extra help*. Information concerning these parent involvement activities is collected from parent reports.

Kohl et al. (2000) outlined six dimensions of parent-initiated and teacher-initiated parent involvement. These include: (a) *parent-teacher contact* (the amount of contact parents initiated with teachers); (b) *parent involvement at school* (parents' participation in school-related activities); (c) *quality of parent-teacher relationship* (parent's feeling about the teacher and vice versa); (d) *teacher's perception of parent's value of education*; (e) *parent involvement at home* (parents' participation in activities

that are related to school readiness); and (f) *parent endorsement of school.* Information concerning these parent involvement activities is collected from parent and teacher reports.

In summary, these models vary in the extent, number, and reliability of dimensions assessed, and the number of informants involved (see Kohl et al., 2000 for a detailed review). Some models involve dimensions that are very wide-ranging, including many different behaviors within a particular factor (e.g., Grolnick & Slowiaczek, 1994); whereas other models comprise dimensions that are quite narrowly defined, constructing separate dimensions from similar behaviors (e.g., Eccles & Harold, 1996). Some models use single items to measure a particular parent involvement dimension (Eccles and Harold, 1996). Lastly, some models rely solely on single-reporter ratings (e.g., Epstein, 1995), whereas other models involve multiple reporters (e.g., Grolnick and Slowiaczek's, 1994; Kohl et al., 2000).

Such inconsistencies in conceptualizing and measuring parent involvement make it difficult to integrate results across studies. Even when researchers investigate the same aspect of parent involvement, they measure it differently (Baker & Soden, 1998). For example, when parents' school-based involvement is assessed, some researchers assess parents' participation in achievement-focused activities such as parent-teacher conferences, dropping by the school to talk to the teacher, or serving as teaching aid in the classroom, whereas other researchers assess parents' participation in non-achievement-focused activities such as serving on school advisory boards, sending

things to class, attending athletic meets or concerts, or volunteering in fund-raising activities or school outings.

On the other hand, some researchers have conceptualized parent involvement from the perspective of the power disparities between parents and the school. For example, Schickedanz (1977) classified parent activities in schools into three levels of involvement based on their influence on the teacher's supremacy and the school's decision-making authority. Level One or "low parent involvement" refers to parent activities that do not challenge the teacher's "expert" role or the school personnel's decision-making power (e.g., attending parent-teacher conferences and school meetings). Level Two refers to parents' attendance and participation in school activities (e.g., aides or chaperons) where the teacher and the school still maintain control over the children's education. Level Three or high parent involvement refers to parents' engagement in activities that entail teaching their children and assuming decision-making roles on school committees and boards. In progressing from Level One through Three, parents shift from a more passive to a more active role, and the school exercises decreasing control over educational decisions (see Bauch, 1993; Cervone & O'Leary, 1982).

On a similar realm, Lawson (2003) conceptualized current parent involvement studies from a *schoolcentric* perspective which examines a spectrum of parent involvement activities that the schools delineate and organize for parents. At one end of this spectrum, parents have little impact over the decision-making processes at school, and their primary goal is to organize an ordered learning-conducive home environment. At the next point, parents are invited to participate in some clerical, extracurricular,

cultural, and child development activities at schools. At the other end of the spectrum, parents serve as teachers' aides in classrooms and participate in parent-teacher organizations and school committees that sustain school-defined goals.

Despite differences in how parent involvement is defined and operationalized in research and practice, the construct generally refers to the parents' investment of resources in their children that may contribute to their academic and psychosocial development or to the parents' direct participation in their children's school in the interest of the children (Epstein, 1995; Grolnick & Slowiazcek, 1994; Kohl et al., 2000; Reynolds, 1992). Currently researchers have moved beyond a focus on specific parent involvement activities to a more elaborate conceptualization of home school collaboration. They generally concur that parent involvement is a multidimensional, bi-directional construct that encompasses a number of behaviors and attitudes (Epstein, 1995; Fan, 2001; Kohl et al., 2000). Some researchers are also aware of the importance of constructing parent involvement models and measures that are consistent with the developmental levels of the students assessed (Fantuzzo et al., 2000). A comprehensive, transactional, and developmental approach to parent involvement promotes our scientific enquiry into the possible effects of the different components of parent involvement.

Psychometrically inadequate measures of PI. Another related issue in current parent involvement research is the scarcity of empirically derived measures of parent involvement that capture the multidimensional nature of parent involvement practices (Fantuzzo et al., 2000). Greater consistency in the use of psychometrically robust

measures of parent involvement would contribute to efforts to synthesize and integrate research findings on parent involvement.

Wong and Hughes (2005) recently conducted a systematic review of published measures of parent involvement. Results indicated a pervasive use of either one single global question or a few questions that represented a unidimensional view of parent involvement prior to the 1990s. The use of small sets of survey items in parent involvement studies certainly fails to describe the diverse ways that parents can be involved in their children's schooling (Fantuzzo et al., 2000). Additionally, parent involvement dimensions that are assessed by only one item cannot yield adequate evidence of reliability (Kohl et al., 2000). Even measures that comprise more than one item are often based on intuitional appeal rather than on empirical evidence. Thus, they lack adequate evidence of construct validity or internal consistency. To enhance the utility of future research findings, researchers have called for the construction of parent involvement dimensions "that are specific in behavioral scope, capture the variety of parent involvement behaviors, and consists of enough content items to reliably measure the construct" (Kohl et al., 2000, p. 505).

Wong and Hughes's (2005) findings that only 33 out of 280 parent involvement measures in published literature covering the years 1965 to 2004 provided evidence of even basic psychometric properties (e.g., internal consistency and validity), and that only three measures met additional criteria widely recognized as essential to measure's claim of validity (e.g., replicability across samples, and evidence of a causal role in student achievement; Corcoran & Fischer, 2000; Groth-Marnat, 2003; Kline, 2000),

underscores the need to improve assessment practices. Research synthesis of this important topic is hindered by the lack of agreement on a small set of measures of demonstrated reliability and validity.

Wong and Hughes's (2005) review pointed out that current measures of parent involvement fail to demonstrate adequate evidence of the equivalence of the construct of parent involvement across ethnic or socioeconomic groups. Although recently researchers have started to report evidence of factorial validity for their measures, it is less common for them to report evidence of the equivalence of factor structure across ethnic or socioeconomic groups. Whereas researchers often report finding ethnic group mean differences in parent involvement levels, it is possible that such ethnic group differences in levels of parent involvement reflect a lack of construct validity across ethnic groups. That is, parent involvement may be constituted differently in different ethnic groups in such a way that measures developed primarily on majority parents may be less relevant to minority parents.

With a few exceptions (e.g., Grolnick & Slowiaczek, 1994; Kohl et al., 2000), most studies depend on single-reporter ratings with unknown reporter biases (e.g., Eccles & Harold, 1996; Kohl et al., 1994). Epstein (1996) found that parent and teacher reports differed significantly. Teachers reported lower levels of parent involvement for single parents than married parents, whereas single parents consistently reported more involvement at home.

Last but not least, Wong and Hughes's (2005) review also indicated that most extant parent involvement measures lack equivalent forms in languages other than

English. Most of the measures that were reviewed are available only in English. Given the dramatic increase in the number of Hispanic/Latino children in U.S. schools over the past 20 years, many of whose parents do not read English proficiently, there is an urgent need for Spanish translations of parent involvement measures.

Low correspondence among sources of PI information. Another important issue to consider in parent involvement research is the reporter of parent involvement. So far, parent ratings, teacher ratings, and student ratings have all been used. Reynolds (1992) examined the correlations among measures of parent involvement by source of report. Correlational analyses revealed a low correspondence between parent, teacher, and child ratings of parent involvement practices. Parent and teacher reports demonstrated greater correspondence than parent-child and teacher-child reports. The associations between parent and child ratings were particularly low. The strongest correlations were found between parent and teacher ratings of involvement in school activities and communication with school (Reynolds, 1992).

Reynolds (1992) suggested three possible explanations for the low correlations between different sources of parent involvement: (a) noncomparability of items across sources; (b) perceptual differences among sources; and (c) social context differences where parent involvement perceptions take place. Whereas the first option is readily amendable by complex statistical techniques (e.g., PRELIS), the last two options are more susceptible to subjective judgments and are less likely to be adjusted through statistical manipulations.

Individuals often differ in their notion of what composes involvement (Ascher, 1988; Reynolds, 1992; Scribner, Young, & Pedroza, 1999). Scribner, Young, & Pedroza (1999) discovered through interviews with teachers in high-performing Hispanic schools in Texas that teachers and parents defined parent involvement differently. Whereas teachers defined parent involvement as involving in formal activities at school (e.g., attending school activities and meetings, serving as teacher aide or tutor), parents defined parent involvement as engaging in informal activities at home (e.g., checking homework assignment, reading and listening to their child read, and talking to their child about school). While teachers viewed parent involvement as "a means to improving academic achievement", parents viewed their involvement as "a means of supporting the total well-being of children" (Scribner, Young, & Pedroza, 1999, p. 37). Thus, if participation at school activities is used as the single indicator of parent involvement, it may provide a distorted view of the contribution parents make to their children's education (Tinkler, 2002).

The social context where perceptions of parent involvement are created may also vary (Reynolds, 1992). For example, teachers may not have adequate knowledge of parents' home-based involvement, particularly of the ethnic minority parents and parents with lower level of education, possibly because of differences in socioeconomic status and the lack of consistent opportunities for meaningful communication between parents and teachers (Baker et al., 1999). On the other hand, children may conceptualize their parents coming to school as a sign of personal weakness and getting in trouble and thus view parent involvement as something negative (Reynolds, 1992).

Hitherto, researchers have not been certain which source of report is more valid and reliable and thus should be preferred over other sources. For example, parents tend to underreport their involvement at school and overreport their involvement at home; whereas teachers often provide valid reports for parent school involvement, especially with young children (Entwisle & Hayduk, 1982), but are less likely to provide reliable report on parent involvement at home (Baker et al., 1999). Children also are possible sources of information on parent involvement because they are the recipients of parent involvement practices. However, children may mistake parent involvement as a sign of academic and/or behavioral difficulties and thus perceive parent involvement negatively. Other sources have been suggested (e.g., observation); however, they have not been utilized extensively in current parent involvement research.

Most studies rely on single-reporter ratings which render them vulnerable to unknown reporter biases (Kohl et al., 1994). Epstein (1996) found that teachers reported lower levels of parent involvement for single parents than married parents, whereas single parents consistently reported more involvement at home. To remedy the problem, researchers advocate the use of multiple measures from different sources to provide a clearer picture of the influence of various parent involvement components on child outcomes (e.g., Grolnick & Slowiaczek, 1994; Kohl et al., 2000; Reynolds, 1992).

Differences in Parent Involvement Levels

Much educational research has examined whether and how parents become involved in their children's education and how schools can increase parent involvement (e.g., Eccles & Harold, 1996). To enhance the effectiveness of parent involvement

endeavors, educators and researchers make continuous efforts to understand why some parents become involved in their children's schooling and others do not (Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Hoover-Dempsey & Sandler, 1997). Research findings indicate that levels of parent involvement are consistently related to family background variables such as ethnicity, parent education level, and family income.

Differences in PI levels by socioeconomic status. Most earlier studies in parent involvement involving socioeconomic variables combine parents' educational level, parents' employment status, and family income. Recently, there is an increasing recognition of the need to investigate these factors separately (Greenberg, Lengua, Coie, Pinderhughes, & Conduct Problems Prevention Research Group, 1999; Kohl et al., 2000).

Parent education level has consistently demonstrated strong relations with parent involvement. Research findings indicate that more educated parents are more involved in their children's education both at home and at school than less educated parents, particularly in school-based involvement (Dauber & Epstein, 1993; Kohl et al., 2000; Shumow & Miller, 2001). In particular, parental education was reported to be significantly associated with the teacher's perception of the parent's value of education and parent-teacher contact (Kohl et al., 2000; Yan, 1999), parents' knowledge about their children's school experiences and future plans, family rules on TV watching (Yan, 1999), parents engaging their children in intellectually stimulating activities at home, and school-focused parent-child interactions (Grolnick & Slowiaczek, 1994). However, parental education was not related to parent perceptions of the value of education,

attitudes toward involvement (Smith et al., 1997), parents' endorsement of school procedures and quality of the parent-teacher relationship (Kohl et al., 2000).

Parent involvement is also shown to be strongly associated with parental employment status and family income. For example, Hart and Risley (1995) found that welfare families demonstrate the lowest and professional families the highest levels of talking and interaction with their children. Several studies reported that fully employed parents are significantly less likely to participate at the school building (Dauber & Epstein, 1993; Eccles & Harold, 1996; Muller & Kerbow, 1993), but parents' employment status is not a significant predictor of home-based involvement (Dauber & Epstein, 1993). Yan (1999) found strong associations between family income and educational expectations, parent-school interaction, parental participation in PTA activities, parent-child home discussions about school experiences and future plans, and parent-child participation in cultural activities. On the other hand, umemployed parents were reported to demonstrate significantly more hours of classroom volunteering than employed parents (Hoover-Dempsey, Bassler, & Brissie, 1992).

Differences in PI levels by ethnicity. Ethnicity has been considered to be a factor that contributes to some variations in the nature and degree of parent involvement (Muller & Kerbow, 1993; Singh et al., 1995). Previous studies have shown that parent involvement patterns vary according to parental racial-ethnic characteristics (e.g., Hoover-Dempsey, Bassler, & Brissie, 1987); however, the findings are inconsistent. While some studies reported that non-minority parents exhibit higher levels of involvement in certain involvement practices than minority parents, other studies have

demonstrated that minority parents have higher levels of involvement in other involvement aspects than non-minority parents (Keith et al., 1993; Ho & Willms, 1996).

Some studies, for example, have reported that minority parents often have different beliefs about parents' role in school involvement, have limited interaction with schools, and are less involved in school activities than non-minority parents (e.g., volunteer, attendance at parent-teacher meetings, open houses, back-to-school nights; Chavkin & Williams, 1993; Delgado-Gaitan, 1991; Griffith, 1998; Kohl et al., 2000; Lareau, 1987, 1989; McCaleb, 1994; Moles, 1993; Stevenson & Baker, 1987).

Other studies, however, have reported that minority parents endorse similar attitudes toward education and exhibit similar, if not higher, levels of involvement in home-based parent involvement practices. For example, Chavkin and Williams (1993) found an overwhelming majority of African American and Hispanic parents concur very strongly with the importance of being involved in their children's education. These parents reported that they make sure that their children complete their homework. They also reportedly rely on the teacher to provide them suggestions about helping their children at home. Other studies also found that minority parents exceed their non-minority counterparts in terms of educational expectations on their children (Yan, 1999), home discussion (Keith et al., 1993; Ho & Willms, 1996), knowledge about their children's courses and homework, and assisting their children to choose courses (Ritter, Mont-Reynaud, & Dornbusch, 1993).

It should be noted that levels of parent involvement are not at all uniform across ethnic minority groups (Ritter, Mont-Reynaud, & Dornbusch, 1993). For example,

African American parents report higher level of emphasis on schoolwork, know more about their children's courses and homework (Ritter, Mont-Reynaud, & Dornbusch, 1993), communicate more frequently with teachers, and are somewhat more likely to help at school (Bauch, 1993) than Asian and Hispanic parents. Hispanic parents, on the other hand, have consistently demonstrated lower rates of school involvement (Costas, 1991; Griffith, 1998). They are less likely to contact the school if they have a problem and have less contact with the school allegedly because they are more deferential, more trusting, and less comfortable with teachers and schools (Ritter, Mont-Reynaud, & Dornbusch, 1993).

It should be noted, however, that parent ethnicity and family socioeconomic variables are closely related (Bauch, 1993; Fan, 2001). Previous studies involving both types of variables failed to separate the effect of ethnicity from that of family socioeconomic variables (Chavkin & Williams, 1993; Delgado-Gaitain, 1991; Lareau, 1987, 1989; Stevenson & Baker, 1987). As a result, the cause for the observed differences in parent involvement levels across ethnic groups cannot be clearly determined.

Because racial groups differ in socioeconomic status, it is important to control for socioeconomic variables when examining racial/ethnic differences, to prevent mis-attributing any effect on racial or ethnic membership versus socioeconomic status. Some researchers attempted to isolate the effects of ethnicity from that of the socioeconomic factors by adjusting for the influence of the socioeconomic variables in their analyses. For example, Fan (2001) adjusted for the socioeconomic variables in her study on ethnic

group differences in different dimensions of parent involvement and found comparable degrees of parent involvement across the four major ethnic groups (i.e., Asian, African American, Hispanic, and non-Hispanic White). Additionally, Yan (1999) reported that after taking the family background variables into account, successful African American students reported equal or higher levels of parent involvement (e.g., home discussions, school contacts, school participation, family rules, parent-child relationships) than their comparable European American peers.

It should also be noted that within the same ethnic groups parents with different education levels demonstrate different levels of parent involvement in their children's education. For example, Ritter, Mont-Reynaud, & Dornbusch (1993) found that within every ethnic group (African American, Asian, Hispanic, non-Hispanic White) they studied, more educated parents tend to value educational pursuits more than less educated parents. Less educated minority parents are more likely to manifest a lack of involvement than more educated parents when they are informed about their children's grades. The researchers also found that the difference in level of involvement between parents of high and low education is strongest among Hispanic parents. The Hispanic parents in their study have a much lower average level of education than other minority parents. The researchers speculate that Hispanic parents' low education level may contribute to their lower levels of involvement in their children's education.

In summary, research in ethnic differences in parent involvement indicates that in different ethnic groups parents may be involved in their children's education in different ways and to different degrees (Ritter, Mont-Rey, & Dornbush, 1993). The dimensions of

parent involvement and family socioeconomic factors often moderate ethnic differences in the levels of parent involvement. Some researchers propose that poverty and limited educational opportunities, rather than ethnic minority status per se, appear to play a more essential role in the observed differences in parent involvement across ethnic groups.

Proposed Theoretical Explanations for PI Differences

Researchers who have investigated parent involvement in education generally assume one of the following four major conceptual approaches to understanding variations in levels of parent participation.

Personal obstacles. Studies that have examined differences in parent involvement levels often adopt a personal deficiencies approach that focuses on the barriers that curtails extensive parent involvement, particularly in the school building. These include language difference, time constraint, inflexible work schedule, logistical difficulties, and psychological obstacles.

For the less educated parents, particularly the Latino immigrant parents, for example, the most frequently cited barriers are feelings of inadequacy, limited exposure to formal education, and previous negative experiences with schools and teachers either in their own or their child's education (Chavkin & Gonzalez, 1995; Floyd, 1998; Hoover-Dempsey, Bassler, & Brissie, 1992; Lopez, 2001; Moles, 1993; Raffaele & Knoff, 1999; Scribner, Young, & Pedroza, 1999; Trumbull et al., 2001). Parents with a lower level of education often find themselves lacking in the requisite skills to assist with home learning. They often feel intimidated when they communicate with teachers and school administrators because they are not familiar with the curriculum and

procedures of the school (Floyd, 1998; Moles, 1993; Sosa, 1997). In addition, parents who were unsuccessful in their own education tend to display distrust towards teachers and may have feelings of low self-esteem and anxiety when they enter a school building, and thus may avoid getting involved with the school (Hyslop, 2000; Menacker et al., 1988).

For the fully employed parents, time constraints and inflexible work schedules are the biggest obstacles to their involvement in their children's schooling (Bauch, 1993; Fuentes, Cantu, & Stechuk, 1996; Gettinger & Guetschow, 1998). This is particularly the case for the families where both parents are working, or a single parent who is trying to tackle multiple life responsibilities. These parents are so preoccupied with accomplishing daily tasks that they have little time left to provide assistance to their children at home, not to mention participating in school activities during or after work hours (Floyd, 1998; Scribner et al., 1999).

For the low-income parents, researchers tend to attribute their low rates of involvement to "the culture of poverty thesis" (Hoover-Dempsey and Sandler, 1995; Lareau, 1987). These researchers suggest that low-income parents are confronted with the more urgent need to fulfill their daily survival needs before they consider ways to satisfy their children's educational needs (Hoover-Dempsey & Sandler, 1995). Some researchers also believe that lower-class and working-class families have distinct values and social organization, and education is not valued as highly as middle-class families (Deutsch, 1967).

Institutional discrimination. Other analysts attribute unequal levels of parent involvement to institutional discrimination, arguing that educational institutions make middle-class families feel more welcome than working-class and lower-class families (Lightfoot, 1978; Ogbu, 1974; Lareau, 1987). Some researchers claim that school characteristics such as the school's physical features, organizational structure (e.g., school climate), and attitude of school staff have significant impact on parent involvement (Dauber & Epstein, 1993).

Many schools have unconsciously created barriers to parent involvement by adopting a bureaucratic and condescending attitude toward parents (Henry, 1996). For example, lower-income, less educated, and ethnic minority parents often find their suggestions and opinions not acknowledged by the school personnel (Phenice, Martinex, & Grant, 1986; Ritter et al., 1993). Because parent-teacher meetings are often scheduled during working hours, working parents have difficulty attending them regularly. School personnel rarely speak languages other than English, and materials sent home (e.g., newsletters, home-school notes, and work sheets) are often in English only. Many schools do not provide interpreters for language minority parents during school meetings (Scribner, Young, & Pedroza, 1999). Not only do parents with limited English proficiency have difficulty communicating with teachers effectively regarding their children's grades, behavior, and homework requirements, but also they find it hard to follow through with teacher requests to help their children with homework if the homework is in English (Aspiazu et al., 1998). When these parents encounter with the

school staff, they tend to feel nervous, intimidated, unwelcome, and misled, and they may avoid entering the school building altogether (Bright, 1996).

Many schools provide limited opportunities for parents to involve in their children's schooling. Particularly, schools serving low-income neighborhoods and communities are often found to implement negligible, infrequent, or zero parent involvement programs and activities (Chavkin, 1993; Lareau, 1996). Even when schools do offer involvement opportunities, White teachers appear to initiate contacts with White parents more frequently than with other ethnic minority parents, probably due to ethnic similarity and greater ease of communication (Bauch, 1993).

Some researchers attribute institutional discrimination to the paucity of educators and administrators from diverse ethnic backgrounds (Orum & Vavarette, 1990). Other researchers attribute the problem to the lack of guidance or training to help teachers and administrators understand and reach out to ethnically and language diverse parents (Moles, 1993; Williams, 1992). Moles (1993) suggested that "disadvantaged parents and the school personnel educating their children may lack knowledge and skills for meaningful interactions, and experience psychological and cultural barriers that limit understanding of each other, including misperceptions and misunderstandings, negative expectations, stereotypes, intimidation, and distrust"
(p. 33).

Cultural differences in perceptions of PI. Cultural differences among minority groups may contribute to differences in the ways parents relate to the school and how they view an appropriate level of involvement. For example, African American parents

often demonstrate a proactive approach in involving themselves in their children's education than the other minority parents. Their involvement strategies are possibly based on the strong beliefs about accountability and the ideology of getting ahead through collective struggle (Bauch, 1993; Fordham & Ogbu, 1986; Fordham, 1996). African American parents are reported to place a high regard on education, manifest more frequent parental reactions to their children's academic performance, and provide assistance to course selection and homework completion (Ritter, Mont-Reynaud, & Dornbusch, 1993). They manifest a strong belief in parent involvement and endeavor to get involved inside their children's schools (Diamond, Wang, & Gomez, 2004).

On the other hand, although Hispanic parents do care about their children's education, they hesitate to be involved in it--allegedly because there is a widespread belief in a distinct demarcation of the roles played by the parent and the teacher respectively, and the supreme authority of the school and teachers (Chavkin & Gonzalez, 1995; Tinkler, 2002).

Throughout Hispanic culture, parents are entrusted with the role to provide nurturance and to impart moral principles and desirable behavior whereas the school and teachers are delegated to inculcate knowledge (Carger, 1997; Chavkin & Gonzalez, 1995; Espinosa, 1995; Trumbull et al., 2001). Family members often do not extend their caregiving role into their children's schools (Inger, 1992). When parents are asked to assume responsibilities that are traditionally viewed as the school's sphere of influence, they may be reluctant to perform them for fear that they will offend the school and teachers (Chavkin & Gonzalez, 1995; Espinosa, 1995; Trumbull et al., 2001). Common

practices among White parents such as asking questions about assignments and grades as a sign of care for their children's education may be viewed as a sign of disrespect by the Hispanic parents (Trumbull et al., 2001).

Because of trust and deference, Hispanic parents are less likely to criticize teachers, and are less likely to contact the school if they have a problem and have less contact with the school. However, many school administrators and educators often misinterpret Hispanic parents' inactive or non-involvement as not caring about their children's education (Ritter, Mont-Reynaud, and Dornbusch, 1993). This misperception has led to a cycle of reciprocal distrust and suspicion between Hispanic parents and school personnel (Inger, 1992).

Some studies suggest that minority parents are more likely than White parents to believe that teachers should be responsible for involving parents at the school, and that school districts should determine the rules for involving parents (Chavkin & Williams, 1993). Thus, although minority parents want to be actively involved in their children's education, they are more likely than White parents to believe that it is the school's responsibility to take the lead in initiating collaboration (Chavkin & Williams, 1993).

Cultural and social capital theory. In recent studies of parent involvement, researchers tend to explore the causes for variations in parent involvement levels from a theory of cultural and social capital originated from the work of Pierre Bourdieu (1977a, 1977b). Researchers have focused on the role of middle class status in providing access to essential forms of cultural and social capital (Lareau, 1989, 2003).

Drawing on the work of Pierre Bourdieu, Coleman (1988) refers *cultural capital* to a set of social class based behavior styles endorsed by the parents that are essential to educational attainment whereas *social capital* as the total amount of resources that are accrued from the parents' social networks and social interactions. Bourdieu's theory emphasizes the importance of class and class cultures in promoting or hampering children's school success through parents' accumulation and investment of resources in the education process. Research findings repeatedly indicate that more educated parents are better able to provide home environments conducive to learning whereas more well off parents maintaining close associations with teachers and other parents gain access to information about school policies and practices (Lareau, 1987, 1989; Lareau & Shumar, 1996; Useem, 1992).

Middle-and-upper-class parents appear to possess more cultural resources in shaping their children's linguistic development and academic readiness to ensure their children's school success. In addition, social networks and relationships possessed by middle-and-upper-class parents serve to accumulate social capital by facilitating the sharing of information, the forming of attitudes and beliefs, the strengthening of behavioral norms, and the provision of emotional and instrumental support (Cochran, 1990; Coleman, 1990; Morgan & Sorensen, 1999). Hoover-Dempsey and Sandler (1997) added that group memberships help parents maintain expectations about appropriate parental behaviors. In the course of time, these "expectations" may have an effect on the extent, level, and nature of parent involvement in children's schooling.

Researchers often consider working class parents and ethnic minority parents as lacking in access to these valued types of capital (Lareau, 1989, 2003). Some researchers argue that ethnic minority and majority students have different home experiences and are affected by different parenting styles (Ogbu, 1992; Steinberg et al., 1992). Other researchers also indicate that poor minority parents demonstrate less knowledge and involvement in their children's schooling (Lareau, 1987, 1989). They often lack the social relationships and financial resources to support their children's out-of-school activities (Lareau, 1987, 1989).

More recently, however, there is an increasing protest from ethnic minority researchers that ethnic minority parents do possess distinct forms of resources that are of importance within their communities. They have coined these types of resources as the "nondominant or ethnic cultural capital" (Diamond, Wang, & Gomez, 2004; Takei, Clark, Shouse, & Chang, 2000) or "natural support systems" (Delgado-Gaitan, 1992). Through their ethnic group membership, parents gain access to familial and community-based forms of social capital. This cultural and social capital is then used to corroborate parents' educational participation. Broad extended family networks, religious participation and culture, and communal child-rearing orientations are various forms of ethnic/nondominant cultural capital within African-American, Asian-American, and Hispanic communities that facilitate different means of access to social capital (Diamond et al., 2004).

The African American church culture, for example, is deemed to be a valued resource for the African American parents (Pattillo-McCoy, 1998). In the same way, the

Hispanic extended family, neighborhood mutual-help groups, and community based organizations [which Delgado-Gaitan (1992) calls the "natural support systems"] serves as an important source of strength to the Hispanic parents. Within their extended families, aunts, uncles, grandparents, cousins, godparents, and even friends all play a role in buttressing family values and nurturing children (Inger, 1992). Even if the parents are working and cannot volunteer their time, other available family members can serve as potential volunteers.

This ethnic cultural and social capital is particularly beneficial among working class parents. These resources allow parents to invest on the required educational items (e.g., books and school materials), spare them time to volunteer at school, and provide them access to supplementary out-of-school learning activities (Diamond et al., 2004).

In summary, researchers have attempted to conceptualize observed variations in parent involvement based on differences in personal, institutional, cultural, and social class characteristics. Rather than being discrete and unrelated, these approaches to a certain extent overlap and intertwine. Parent involvement decisions, as we have understood, appear to be affected by both parent perceptions and school influences (e.g., teacher attitudes, opportunities or barriers to involvement; Hoover-Dempsey & Sandler, 1995, 1997), which are influenced by the cultural and social resources that are available to the individuals and the schools from the broader communities in which they are embedded.

CHAPTER III

METHOD

Participants

The participants in the present study were a subsample of parents and teachers of first-grade children attending one of three school districts (1 urban, 2 small city) in Southwest Texas, who were recruited in two sequential cohorts to participate in a larger longitudinal study on the impact of grade retention on academic achievement and psychosocial outcomes. The three participating school districts have ethnically diverse student populations, with higher proportions of African American, Hispanic, and White students (approximately 30% each). A significant percentage of these students (33.8%-46.5%) were eligible for free or reduced lunch. Of the two small-city school districts, one has 16 elementary schools with 6,667 students whereas the other has 5 elementary schools with 3,259 students. The urban school district has 18 elementary schools with 12,192 students.

A total of 1,374 eligible children [cohort 1 = 776, cohort 2 = 598] who scored below the median of their respective district literacy tests either in May of kindergarten or September of first grade and had not been retained in first grade were invited to participate in the larger study. The median literacy scores across the three districts were not significantly different ($t(2) = 1.06$, $p = .402$). Written consent from one of the child's parents was obtained for 784 (57%) of these children. Children with and without parent consent for participation did not differ on age ($F(1, 1302) = .023$, $p = .880$), gender (*Pearson Chi-Square*(1) =.646, $p = .422$), ethnic status (*Pearson Chi-Square*(5) = 3.798,

p = .579), free or reduced lunch status (*Pearson Chi-Square*(1) = 2.176, p = .140), or literacy test scores (F(1, 1366) = .066, p = .798). Children with consent were somewhat more likely to be eligible for Limited English Proficiency status (68%) than children without consent (32%; *Pearson Chi-Square*(1) =16.218, p < .001). The first cohort of parents and teachers was recruited in fall 2001 while the second cohort was recruited in fall 2002. Questionnaires containing the parent involvement scales were sent to parents and teachers, respectively, in the spring of subsequent years. In this study, only the Time 1 parent and teacher data were used.

Parent participants. A total of 505 (64%) parent questionnaires were received [cohort 1 = 273 (61%), cohort 2 = 232 (69%)] at Time 1. Children with and without complete data on parent questionnaires did not differ on most demographic variables or study variables at baseline, with four exceptions. Children with complete data were somewhat more likely to be White (73%), to speak English at home (67%), to not qualify for reduced or free lunch (67%), and to have at least one parent with at least high school education (85%) than children without complete data.

Of the 505 participating parents, 481 reported being African American (n=106, 21%), Hispanic (n=163, 32%), or White (n=212, 42%), a criterion for inclusion in this study. Eighty-five percent of the primary custodial parents were biological mothers, 12 % were biological fathers, and the remaining 2% were grandparents, aunts, or other female caretakers. The mean age of these parents was 34 years (SD = 7.2). Approximately 12% (n=59) of these parents had less than a high school education while 88% (n=444) had at least a high school education. Among the participating parents,

approximately 69% (n=347) were employed either full-time or part-time while 26% (n=133) were not employed. Table 1 provides descriptive statistics of the parent sample as a function of parent ethnicity and language spoken in the home (for Hispanic parents only). Significant differences were noted in terms of age and education level across ethnic groups. Specifically, the mean age of White parents (36) was significantly higher than the mean age of English-speaking Hispanic parents (31; $p<.05$). Whereas English-speaking Hispanic parents demonstrated a significantly lower education level than White parents, Spanish-speaking Hispanic parents showed a significantly lower education level than White, African American, and English-speaking Hispanic parents ($p<.05$). Although both English-Speaking and Spanish-Speaking Hispanic parents were equally proud to be a Latino, they varied significantly in education level, spoken and written languages, and acculturation score ($p<.05$).

Teacher participants. A total of 681 (87%) teacher questionnaires were received [cohort 1 = 372 (83%), cohort 2 = 309 (92%)] from 187 teachers. Children with and without complete data on teacher questionnaires did not differ on any demographic variables or study variables at baseline, with one exception. Children with complete data were somewhat more likely to have parents who received at least a high school education (88%) than children without complete data (12%).The teacher sample included 2.3% African-American (n=4), 11.4% Hispanic (n=20), 84% Caucasian (n=147), and 2.3% other (n=4). Among the teachers, 98.9% were female and 19.8% spoke Spanish in addition to English. Approximately 49% (n=85) of these teachers had a bachelor degree, 28.7% (n=50) had a bachelor degree and some graduate work, and

Table 1

Descriptive Statistics of the Parent Sample as a Function of Parent Ethnicity

Variable	White	African-American	English-Speaking Hispanic	Spanish-Speaking Hispanic	Total
Sample Size	212	106	92	71	505
Age					
Minimum	21	22	21	22	21
Maximum	58	67	51	46	67
Mean	36_{a}	33	31_{a}	33	34
SD	6.8	8.8	6.4	5.8	7.2
Relationship to Child					
Mother	190 (89.6%)	95 (89.6%)	77 (83.7%)	54 (76.1%)	430 (85.0%)
Father	22 (10.4%)	3 (2.8%)	12 (13.0%)	16 (22.5%)	63 (12.5%)
Grandparent	--	7 (6.6%)	1 (1.1%)	1 (1.4%)	9 (1.8%)
Aunt/Female Other	--	1 (0.9%)	2 (2.2%)	--	3 (0.6%)
Education Level[a]					
Less Than High School	1 (0.5%)	5 (4.7%)	11 (12%)	42 (59.2%)	59 (11.7%)
At Least High School	211 (99.5%)	100 (94.3%)	81 (88%)	28 (39.4%)	444 (87.9%)
Missing	--	1 (0.9%)	--	1 (1.4%)	2 (0.4%)
Mean	$1.00_{a,b}$	$.95_{c}$	$.88_{a,d}$	$.40_{b,c,d}$	.88
SD	.07	.21	.33	.49	.32
Employment Status[b]					
Unemployed	52 (24.5%)	41 (38.7%)	18 (19.6%)	17 (23.9%)	133 (26.3%)
Employed	150 (70.8%)	62 (58.5%)	71 (77.2%)	49 (69.0%)	347 (68.7%)
Missing	10 (4.7%)	3 (2.8%)	3 (3.3%)	5 (7.0%)	25 (5.0%)

Table 1 Continued

Variable	White	African-American	English-Speaking Hispanic	Spanish-Speaking Hispanic	Total
Mean	.74	$.60_{a}$	$.80_{a}$	.74	.72
SD	.44	.49	.40	.44	.45
Language Speaks[c]					
Mean	--	--	3.7_{α}	1.6_{α}	--
SD	--	--	.72	.63	--
Language Reads[c]					
Mean	--	--	4.0_{α}	1.8_{α}	--
SD	--	--	.82	.89	--
Acculturation Score[d]					
Mean	--	--	4.0_{α}	2.4_{α}	--
SD	--	--	.45	.63	--

Note: [a]Education Level was recoded in an 8-point scale (1=elementary, 2=middle school/junior high, 3=high school/GED, 4=trade/vocational school, 5=some college/associate degree, 6=bachelor degree, 7=master's degree, 8=Ph.D./MD). [b]Employment Status was recoded in a 3-point scale (0=unemployed, 1=employed part time, 2=employed full time). [c]Language Speaks and Language Reads were coded in 5-point scales (1=only Spanish, 2=Spanish better than English, 3=both English and Spanish are equally well, 4=English better than Spanish, 5=only English). [d]Acculturation Score ranges from 0 to 5. Higher scores indicate greater extent of acculturation. Means in the same row that share subscripts differ at $p < .05$ in the Games-Howell significant difference comparison.

22.4% (n=39) had at least a master's degree. Among the participating teachers, 28% (n=49) had less than 3 years of teaching experience, 22.8% (n=40) had 4-9 years of teaching experience, and 49.2% (n=86) had at least 10 years of teaching experience. Approximately 57% (n=100) of the teachers had taught the current grade for less than 3 years, 24% (n=42) for 4-9 years, and 18.9% (n=33) for at least 10 years. Table 2 provides descriptive statistics of the teacher sample as a function of teacher ethnicity. Significant differences were noted in Spanish speaking ability across ethnic groups.

Measures

Parent involvement was assessed by parent report and teacher report measures.

Parent report. The Parent Involvement in Early Years--Parent Report (PIEY-P) was used in this study to collect parents' self-report on their involvement in their children's education. The measure was initially derived from a pool of 32 items. Twenty-six items were adapted from the Parent-Teacher Involvement Questionnaire (PTIQ; Conduct Problems Prevention Research Group, 1995) which covers four dimensions of parent-teacher partnership: *Teacher Relationship Quality Factor*, *Parent Involvement, Parent's Endorsement of School, and Parent-Teacher Contact*. Six additional items were created to cover parent perceived parental self-efficacy and roles. An exploratory principal components factor analysis based on the first cohort of parents (N = 273) yielded a 4-factor solution accounting for 49.7% of the variance that fit the theoretical model well. The factor structure was confirmed through a confirmatory factor analysis (CFA) conducted in the combined cohort 1 and cohort 2 parent sample using the maximum likelihood estimation method. Results for the revised model with correlated

Table 2

Descriptive Statistics of the Teacher Sample as a Function of Teacher Ethnicity

Variable	White	African-American	Hispanic	Total
Sample Size	147	4	20	187
Female	145 (98.6%)	4 (100%)	20 (100%)	175 (98.9%)
Speak Spanish	18 (12.2%)$_{a,b}$	1 (25%)$_{a.c}$	18 (90%)$_{b,c}$	37 (19.8)
Number of Certifications				
Mean	2.1	1.5	2.2	2.1
SD	.88	.58	.89	.88
Education Level[a]				
Mean	1.8	1.8	1.6	1.8
SD	.90	.50	.83	.89
Years of Teaching Experience				
Mean	4.3	5.0	3.5	4.2
SD	1.78	1.16	1.76	1.79
Years at Current School				
Mean	3.0	3.3	2.5	2.9
SD	1.63	.96	1.19	1.58
Years at Current Grade Level				
Mean	3.1	4.0	2.4	3.0
SD	1.71	.82	1.19	1.65

Note: [a]Education Level was coded in a 4-point scale (1= B.A./B.S., 2= B.A./B.S. plus some graduate work, 3= Master's degree, 4= Master's degree plus some doctoral work). Means in the same row that share subscripts differ at $p < .05$ in the Pearson Chi-Square test.

measurement errors for items that were similar within scales indicated an adequate fit to the data, $\chi^2(333, N = 387) = 593.4$, $p < .01$, GFI = .91, CFI = .95 and RMSEA = .05. Multiple group comparison analyses using Amos on Caucasian and Hispanic parents were conducted to determine equivalence of factor structure across ethnic groups. Results indicated adequate model fit for the two groups after one item ("Parent volunteers at child's school") was dropped from the initial model, $\chi^2(642, N = 300) = 943.8$, $p < .01$, GFI = .84, CFI = .92 and RMSEA = .04. The four scales were: Positive Perceptions about School ($\alpha = .93$), Communication ($\alpha = .72$), Parent-Teacher Shared Responsibilities ($\alpha = .72$), and Parent School-Based Involvement ($\alpha = .72$). Cronbach's alpha for the overall measure is .87. The items were coded on a 5-point scale including specific frequency ratings (1 = *Never* and 5 = *More Than Once Per Week*), general impressions of frequency (1 = *Never* and 5 = *Almost Always*), and level of agreement with statements about school (1 = *Strongly Disagree* and 5 = *Strongly Agree*). Higher scores indicate greater extent of parent involvement. The scale scores are computed by taking the mean of all the completed items comprising a particular scale. However, at least half of the items pertaining to a scale must have been completed in order for that scale score to be computed. Appendix A provides factor loadings, means and standard deviations for each PIEY-P item and eigenvalue, explained variance and Cronbach's alpha for the four parent involvement factors.

Teacher report. The Parent Involvement in Early Years--Teacher Report (PIEY-T) was used in this study to collect teachers' ratings on parent involvement in education. The measure was initially derived from a pool of 28 items. Twenty-one items were

adapted from the Parent-Teacher Involvement Questionnaire-Teacher Report (PTIQ-T; Conduct Problems Prevention Research Group, 1995; Kohl et al., 2000) which covers four dimensions of parent-teacher partnership: *Teacher Relationship Quality Factor*, *Parent Involvement*, *Teacher's Perception of Parent's Value of Education, and Parent-Teacher Contact*. Seven items were adapted from the Joining Scale of the Parent-Teacher Relationship Scale—Teacher Form (PTRS-TF; Vickers & Minke, 1995). An exploratory factor analysis based on the combined first and second cohort of 675 teachers of first grade children yielded a 3-factor solution that accounted for 55.5% of the variance. Eight items were eliminated due to significant cross loadings. All other items loaded either at least .40 on one factor and less than .30 on another factor or at least .30 on one factor and less than .20 on another factor. The three factors were: *Alliance* ($\alpha = .93$)*, General Parent Involvement* ($\alpha = .77$)*, and Teacher Initiation* ($\alpha = .65$). Reliability analyses revealed good internal consistency for the overall measure ($\alpha = .87$). The items were coded on a 5-point scale including specific frequency ratings (1 = *Never* and 5 = *More Than Once Per Week*), general impressions of frequency (1 = *Never* and 5 = *Almost Always*), and level of agreement with statements about school (1 = *Strongly Disagree* and 5 = *Strongly Agree*). Higher scores indicate greater extent of parent involvement. The scale scores are computed by taking the mean of all the completed items comprising a particular scale. However, at least half of the items pertaining to a scale must have been completed in order for that scale score to be computed. Appendix B provides factor loadings, means and standard deviations for each PIEY-T item and eigenvalue, explained variance and Cronbach's alpha for the three parent involvement factors.

Independent Variable

Parent ethnicity was the independent variable in the current study. Parents provided data of their ethnic membership on a parent questionnaire with the following choices: Native American, Asian, African American, Hispanic, Caucasian, and others. However, only three groups (Caucasian, African American, and Hispanic) were included in these analyses. Since noted differences were found between English-speaking and Spanish-speaking Hispanic parents in the sample in terms of education and acculturation levels, analyses involving ethnic group will be conducted with planned contrasts involving all four groups (Caucasian, African American, Hispanic-English speaking, and Hispanic-Spanish speaking). Of the sample, 42% (n=212) was Caucasian, 21% (n=106) was African American, 18% (n=92) was Hispanic-English speaking, and 14% (n=71) was Hispanic-Spanish speaking.

Three orthogonal contrasts were used in the analyses to identify sources of ethnic group difference. The first contrast involved comparison of majority and minority parents. Caucasian parents were coded with a -3 whereas African American and the two groups of Hispanic parents were coded with a 1, respectively. The second contrast involved comparison of minority subgroups. African American parents were coded with a -2 whereas the two groups of Hispanic parents were coded with a 1. The last contrast involved comparison of the two subgroups of Hispanic parents. English-Speaking Hispanic parents were coded with a 1 whereas the Spanish-speaking Hispanic parents were coded with a –1.

Dependent Variables

Parent and teacher ratings of parent involvement in education were examined in this study. Parent ratings of parent involvement involved four dimensions: positive perceptions about school, communication, parent-teacher shared responsibilities, and parent school-based involvement. Teacher ratings of parent involvement involved three dimensions: alliance, general parent involvement, and teacher initiation. A composite score for each of the parent involvement subscale was obtained by computing the mean of the available item scores pertaining to each subscale.

Background Variables

Because of the potential confounding effects of some family background variables on the level of parent involvement as reported in current literature, both parent education and parent employment status were included in the analyses.

Parents provided data on parent education which was coded as an interval variable (1=elementary school, 2=middle school or junior high school, 3=high school or GED, 4=vocational or trade school, 5=some college or associate degree, 6=bachelor degrees, 7=masters degrees, 8=Ph.D. or equivalent). Approximately eighty-eight percent of the parents reported that they attended high school, college, or graduate school.

Parents provided data on parent employment status which was also coded as an interval variable (0=unemployed, 1=employed part time, 2=employed full time). Approximately sixty-nine percent of the parents reported being employed full or part time.

Both parent report and school records provided data on parent language use. Parents selected from the following choices regarding their language use: only Spanish, Spanish better than English, English and Spanish equally well, English better than Spanish, and only English. When parent report was unavailable, school records were used to provide data on parent language use. Choices included English, Spanish, and other.

Parents provided data on parent acculturation level. Using Balcazar, Castro, and Krull's Parent Acculturation Scale (1995), parents were asked to indicate on a 5-point scale to five questions that assessed the language they speak and read (1=only Spanish or least fluent in English, 5=only English or most fluent in English), location of their early life (1=only in Latin America, 2=mostly in Latin America or the Caribbean, 3=equally in Latin America/the Caribbean and the United States, 4=mainly in the United States, 5=only in the United States), current circle of friends (1=almost exclusively Hispanic/Latinos, 2=mainly Hispanic/Latinos, 3=equally Hispanic/Latinos and Americans from the United States, 4=mainly Americans from the United States, 5=almost entirely Americans from the United States), and feeling towards having a Latino/Hispanic background (1=no pride, 5=very proud). Based on Balcazar, Castro, and Krull's (1995) recommendations, the parent's acculturation score was obtained by summing answers indicated and mean item score was computed to indicate the parent's level of acculturation.

Missing on Any Parent Variables

A missing parent information variable was created to assess the impact of missing parent data on the dependent variables. Parents received a 1 (=missing parent data) on the missing information variable if they did not answer a parent education question or a question about their employment status. Parents who answered these background questions received a 0 (=no missing parent data) on the missing information variable. Approximately five percent of parents did not answer any of the two control variables. The influence of missing data was estimated by a one-way analysis of variance (ANOVA). Results indicated no significant influence of missing data on all the parent and teacher ratings of parent involvement scales except on teacher-reported teacher initiation ($F(1,431)=4.15$, $p=.042$). That means, children with complete parent background data were somewhat more likely to have higher levels of teacher initiation of involvement opportunities based on teacher report. Separate one-way ANOVAs were then conducted to examine the effect of missing data on parent education and on parent employment status, respectively. No significant influence was found for either of the missing information variables on all the parent and teacher ratings of parent involvement scales. It was decided that only cases with complete data on all study variables were used in the analyses.

Data Analysis

Both multivariate analysis of covariance (MANCOVA) and repeated measures analysis of covariance (ANCOVA) were used in this study. A one-way MANCOVA was used to examine the first hypothesis concerning ethnic group difference in parent

involvement dimensions after controlling for parent education and parent employment status. A repeated measures ANCOVA was used to examine the second hypothesis concerning the interaction effect of parent involvement scale on parent ethnicity to account for ethnic differences in parent involvement. For both analyses, covariates included parent education and parent employment status. Three planned contrasts were used to determine if there were significant differences among the four ethnic groups.

CHAPTER IV

RESULTS

Presentation of the results is organized into four sections: (a) testing of assumptions, (b) relations between study variables, (c) differences in parent involvement by ethnic group, and (d) ethnic difference in parent involvement as moderated by type of involvement scale.

Testing of Assumptions

Since multivariate analysis of covariance (MANCOVA) and repeated measures analysis of covariance (ANCOVA) were selected to answer the two research questions, the data set was examined for violations to essential assumptions associated with the application of these two statistical methods: multivariate normality, outliers, homogeneity of variances and covariances, and sphericity.

Multivariate normality. In ANCOVA and MANCOVA, the dependent variable is expected to be normally distributed in each category of the independent variable. It is common to assume multivariate normality if each variable considered separately follows a normal distribution (Stevens, 2002). Univariate normality was assessed through the use of SPSS which yielded measures of skewness that ranged from –1.09 to 1.12 and measures of kurtosis which ranged from -.41 to 2.73. As such, all variables met criteria for univariate normality as recommended by Stevens (2002). More detailed normality characteristics are presented in Table 3. In fact, ANCOVA and MANCOVA are robust in the face of most violations of multivariate normal distribution if sample size is not small (i.e., >20; Bray & Maxwell, 1985). Since the data samples of this study were

Table 3

Skewness and Kurtosis of Variables

Variables	N	Mean	Std	Skewness	Kurtosis
(Parent Ratings)					
Positive Perceptions	499	4.20	.71	-1.090	1.236
Communication	497	2.65	.67	.235	.047
Shared Responsibility	498	4.37	.48	-1.072	1.650
School-Based Involvement	499	2.26	.53	1.121	2.733
(Teacher Ratings)					
Alliance	673	3.81	.61	-.939	1.638
General Parent Involvement	675	2.17	.50	.908	1.268
Teacher Initiation	671	3.13	.67	-.396	-.409

sufficiently large (447 sets of parent data and 476 sets of teacher data), multivariate normality was assumed not to be a problem.

Outliers. ANCOVA and MANCOVA are highly sensitive to outliers in the covariates (Stevens, 2002). In this study, no extreme scores (standard scores ≥ 3.3) were identified for the two covariates, parent education and parent employment status. As such, the two covariates were free from significant outliers.

Homogeneity of variances and covariances. In ANCOVA and MANCOVA, the assumption of homogeneity of variances is important for grouped data. According to this assumption, variability in the dependent variable is expected to be approximately the same at all levels of the grouping (independent) variable. Homogeneity of variances was

assessed through the use of the Levene's test provided in SPSS. Results indicated that the groups had equal variances in three parent involvement subscales (parent–rated Positive Perception about School and Parent School-Based Involvement, as well as teacher-rated Teacher Initiation) and had unequal variances in the other four parent involvement subscales (parent-rated Communication and Parent-Teacher Shared Responsibility as well as teacher-rated Alliance and General Parent Involvement). However, since the Levene's test is considered very conservative, the F-Max test was applied to determine whether the four scales that did not pass the Levene's test significantly violated the assumption of homogeneity of variances as recommended by Bray and Maxwell (1985). That is, if the ratio of the largest to smallest size group is not very unequal (i.e., 4:1 or less), homogeneity of variances is assumed if the ratio of the variance in the largest group to the variance in the smallest group is 10:1 or less (Bray & Maxwell, 1985). Both the group ratios (2.81-3.37:1) and the variance ratios (.468-1.384: 1) of the four scales that did not pass the Levene's test were within the acceptable ranges. Thus, the F-max results indicated that the assumption of homogeneity of variances was met for all the four scales that did not pass the Levene's test.

Similar to homogeneity of variance, homogeneity of variance-covariance matrices requires an entry in a variance-covariance matrix using one dependent variable to be similar to the same entry in a matrix using another dependent variable (Stevens, 2002). The assumption of multivariate homogeneity of variances and covariances was assessed through the use of Box's M test provided in SPSS. Since this test has shown to be a liberal test that rejects the null hypothesis very often, especially when samples sizes

are large, the alpha level of the test was decreased to .001. Results indicated that the assumption of multivariate homogeneity of variances and covariances was violated among the four parent-rated parent involvement scales (p <.001) and the three teacher-rated parent involvement scales (p <.001). As a correction, the Pillai's Trace significance test was used to interpret multivariate test results as Pillai's criteria was considered the most robust to violations of assumptions concerning homogeneity of the covariance matrix (Olson, 1976; Stevens, 2002).

Sphericity. Sphericity is an assumption of repeated measures ANCOVA (Hand & Taylor, 1987). Sphericity is assumed when the variance of the difference between the estimated means for any pair of groups is the same as for any other pair (Hand & Taylor, 1987). In a repeated measures design, the univariate ANCOVA tables will not be interpreted properly unless the variance/covariance matrix of the dependent variable is circular in form (Hand & Taylor, 1987). This assumption was assessed through the use of Barlett's test of sphericity provided in SPSS. Results indicated that sphericity was violated for both parent-rated and teacher-rated parent involvement scales (p<.001). As a correction, the Greenhouse-Geisser Epsilon was used as recommended by Hand and Taylor (1987).

In summary, most of the essential assumptions associated with the application of ANCOVA and MANCOVA were met in this data set. As a correction to the violation of homogeneity of covariances and sphericity, the Pillai's Trace significance test and the Greenhouse-Geisser Epsilon was used to interpret the results of MANCOVA and repeated measures ANCOVA, respectively.

Relations between Study Variables

To explore the relations among the four parent-rated parent involvement subscales and the three teacher-rated parent involvement subscales, respectively, Pearson product-moment correlation coefficients were obtained. Results are presented in Table 4.

Parent ratings of parent involvement. Significant positive correlations were found among the four parent-rated parent involvement scales. However, the magnitude of the associations was rather low (*r*s=.24-.39), suggesting that the four subscales were sufficiently independent to justify analyzing them separately.

Teacher ratings of parent involvement. Significant positive correlations also were found among the three teacher-rated parent involvement scales. However, the magnitude of the associations was rather low (*r*s=.10-.41), suggesting that the three subscales were sufficiently independent to justify analyzing them separately.

Parent and teacher ratings of parent involvement. Of the twelve correlations between the parent-rated and teacher-rated parent involvement subscales, only seven were statistically significant. Four of the significant correlations were found between teacher-rated General Parent Involvement and all four parent-rated scales (*r*s=.11-.29, $p \leq .05$). Teacher-rated Alliance was only significantly correlated with two parent-rated scales (Positive Perceptions about School and Parent School-Based Involvement; *r*s=.27 and .17, *p*=.01, respectively). Teacher-rated Teacher Initiation was only significantly correlated with one parent-rated scale (Communication; *r*=.12, *p*=.05). However, the

Table 4

Pearson r Correlations Between Parent Involvement Subscales

	1	2	3	4	5	6
(Parent Ratings)						
1. Positive Perceptions						
2. Communication	.30**					
3. Shared Responsibility	.35**	.28**				
4. School-Based Involvement	.27**	.39**	.24**			
(Teacher Ratings)						
5. Alliance	.27**	.05	.07	.17**		
6. General Parent Involvement	.14**	.19**	.11*	.29**	.41**	
7. Teacher Initiation	.03	.12*	.05	.07	.10*	.31**

* $p<.05$, ** $p<.01$

magnitude of the significant associations was rather low (*rs*=.11-.29), suggesting that the associations were not strong.

Independent and control variables. To examine the relations between parent ethnicity, parent education, and parent employment status, a series of η^2 and Pearson product-moment correlation tests were conducted. Results are presented in Table 5.

Parent ethnicity was significantly positively associated with parent education (eta squared=.22) but was not significantly related to parent employment status (eta

Table 5

Relations Between Parent Ethnicity, Parent Education, Parent Employment Status, and Parent Involvement Scales

			Parent Ratings				Teacher Ratings		
	Education	Employment Status	pp	cm	sr	si	al	gi	ti
Ethnicity[a]	.22	.01	.01	.03	. 09	.00	.04	.09	.00
Education[b]		.11**	.07	.11*	.20**	.02	.11*	.19**	-.03
Employment Status[b]			-.04	.05	-.12*	-.04	.04	-.07	-.07

Note. pp=Positive Perceptions about School. cm=Communication. sr=Parent-Teacher Shared Responsibility. si=Parent School-Based Involvement. al=Alliance. gi=General Parent Involvement. ti=Teacher Initiation. [a]Values represent eta squared. [b] Values represent Pearson product-moment correlation coefficients.

* $p<.05$. ** $p<.01$.

squared=.01). Parent education was significantly related to parent employment status; however, the association was not strong (r=.11, p =.009).

Independent/control variables and parent involvement scales. Associations between the seven parent involvement subscales and the independent (parent ethnicity) and control (parent education and parent employment status) variables were conducted through a series of η^2 and Pearson product-moment correlation tests. Results are also presented in Table 5.

Parent ethnicity showed a low association with all the parent involvement subscales (eta squareds=.00-.09), indicating that parent ethnicity shared at most 9% common variance with only two of the parent involvement subscales (parent-rated Parent-Teacher Shared Responsibility as well as teacher-rated General Parent Involvement).

Parent education was significantly positively correlated with only half of the parent involvement subscales: parent-rated Communication and Parent-Teacher Shared Responsibility as well as teacher-rated Alliance and General Parent Involvement. Significant Pearson correlation coefficients ranged from .11 to .20 ($p \leq .05$). Specifically, parent education was significantly positively correlated with parent-rated Parent-Teacher Shared Responsibility ($r = .20$, $p < .01$). That means, more educated parents tended to report higher level of shared responsibility with the teacher, and vice versa.

Parent employment status was only significantly negatively correlated with one parent involvement subscale: parent-rated Parent-Teacher Shared Responsibility ($r = -.12$, $p = .05$). That means, parents who devoted more time to their employment were more likely to report a lower level of shared responsibility with the teacher, and vice versa.

In summary, of the three independent and control variables, only parent education showed more significant associations with the parent involvement subscales. Parent ethnicity and parent employment status showed lower associations with the parent involvement subscales.

Differences in Parent Involvement by Ethnic Group

A series of multivariate analysis of covariance (MANCOVA) and univariate analysis of covariance (ANCOVA) with three planned orthogonal contrasts of parent ethnicity as the independent variables were conducted to determine if a main effect of ethnicity existed after parent education and parent employment status were controlled. These results were reported by the source of ratings.

Parent ratings. In the first MANCOVA, the dependent variables consisted of Positive Perceptions about School, Communication, Parent-Teacher Shared Responsibility, and Parent School-Based Involvement. The independent variable, parent ethnicity, was entered in the model through three planned orthogonal contrasts using the Helmert approach. The first contrast involved comparison of majority (White) and minority (African American and Hispanic) parents. The second contrast involved comparison of African American and Hispanic parents. The third contrast involved comparison of English-speaking and Spanish-Speaking Hispanic parents. Parent education and parent employment status were entered as covariates in the model.

Results of the first MANCOVA indicated a significant main effect of ethnicity for parent ratings of parent involvement (Pillai's Trace=.08, F (12, 1320) = 3.11, p < .001, eta squared=.03) after parent education and parent employment status were controlled. In the univariate analyses, significant main effects of ethnicity were obtained for Communication (F (3, 441) = 4.61, p = .003, eta squared=.03) and Shared Responsibility (F (3, 441) = 9.14, p < .001, eta squared=.06). Contrast results indicated that White parents reported a significantly higher level of Parent-Teacher Shared

Responsibility than African American and Hispanic parents (p = .002). African American parents reported significantly higher levels of Communication and Parent-Teacher Shared Responsibility than Hispanic parents ($p \leq .001$). English-speaking Hispanic parents reported a significantly higher level of Parent-Teacher Shared Responsibility than Spanish-speaking Hispanic parents (p = .001). Table 6 shows the means and multivariate, univariate, and contrast results for three planned comparisons on parent-rated parent involvement scores.

Teacher ratings. In the second MANCOVA, the dependent variables consisted of Alliance, General Parent Involvement, and Teacher Initiation. The independent variable, parent ethnicity, was also entered in the model through the same three planned orthogonal contrasts used in the first MANCOVA using the Helmert approach. Parent education and parent employment status were also entered as covariates in the model.

Results of the second MANCOVA indicated a significant main effect of ethnicity for teacher ratings of parent involvement (Pillai's Trace=.13, F = (9, 1410) = 7.03, p < .001, eta squared=.04) after parent education and parent employment status were controlled. In the univariate analyses, significant main effects of ethnicity were obtained for Alliance (F (3, 470) = 2.83, p<.001, eta squared=.05) and General Parent Involvement (F (3, 470) = 3.17, p<.001, eta squared=.08). Contrast results indicated that White parents showed a significantly higher level of General Parent Involvement than African American and Hispanic parents ($p < .001$) whereas Hispanic parents showed significantly higher levels of Alliance and General Parent Involvement than African American parents ($p < .001$). Table 7 shows the means and multivariate, univariate, and

Table 6

Means, and Multivariate, Univariate, and Contrast Results for Three Planned Comparisons on Parent-rated Parent Involvement Scores

Subscales	Means for the Groups			
	White (n=202)	African American (n=98)	Hispanic-English (n=87)	Hispanic-Spanish (n=60)
Positive Perceptions	4.24 (.751)	4.28 (.639)	4.15 (.719)	4.04 (.574)
Communication	2.67 (.563)	2.85 (.803)	2.60 (.584)	2.42 (.759)
Shared Responsibility	4.47 (.389)	4.47 (.469)	4.32 (.504)	4.00 (.597)
School-Based Involvement	2.27 (.452)	2.32 (.603)	2.23 (.544)	2.20 (.597)
	df	*MS*	*F*	*p*
Multivariate Test[a]	12/1320		3.107	.000**
Univariate Tests				
Positive Perceptions	3/441	.488	.997	.394
Communication	3/441	1.934	4.606	.003**
Shared Responsibility	3/441	1.864	9.142	.000**
School-Based Involvement	3/441	1.135	.489	.690

Subscales	Contrast Results (*p values)*		
	Non-minority vs. Minority	African American vs. Hispanic	Hispanic-English vs. Hispanic-Spanish
Positive Perceptions	.502	.101	.476
Communication	.602	.001**	.422
Shared Responsibility	.002**	.000**	.001**
School-Based Involvement	.907	.247	.969

Note. Standard deviations were given within parentheses. [a]Pillai's Trace test was applied.

** $p<.01$.

contrast results for three planned comparisons on teacher-rated parent involvement scores.

Ethnic Differences in Parent Involvement as Moderated by Type of Involvement Scale

Two repeated measures analysis of covariance (ANCOVA) with three planned orthogonal contrasts of parent ethnicity as the independent variable were conducted to determine if an interaction effect of ethnicity and scale existed after parent education and parent employment status were controlled. These results were reported by the source of ratings.

Parent ratings. In the first repeated measures ANCOVA, the within-subjects variable was Scale which consisted of Positive Perceptions about School, Communication, Parent-Teacher Shared Responsibility, and Parent School-Based Involvement. The between-subjects variable was parent ethnicity which was entered through three planned comparisons involving comparison of majority (White) and minority (African American and Hispanic) parents, African American and Hispanic parents, as well as English-speaking and Spanish-speaking Hispanic parents, respectively. Parent education and parent employment status were entered as covariates in the model.

Results of the first repeated measures ANCOVA indicated significant main effects of scale ($F(2.78, 1225.75)=159.05$, $p <.001$, eta squared=.27) and ethnicity ($F(3, 441)=4.98$, $p =.002$, eta squared=.03) but a non-significant interaction effect of scale on parent ethnicity ($F(8.34, 1225.75)=1.74$, $p = .082$, eta squared=.01) after parent education and parent employment status were controlled. That means, parent ratings of

Table 7

Means and Multivariate, Univariate, and Contrast Results for Three Planned Comparisons on Teacher-rated Parent Involvement Scores

	Means for the Groups			
Subscales	White (n=202)	African American (n=110)	Hispanic-English (n=92)	Hispanic-Spanish (n=72)
Alliance	3.87 (.599)	3.61 (.662)	3.93 (.554)	3.94 (.509)
General Parent Involvement	2.33 (.515)	1.94 (.381)	2.21 (.496)	2.06 (.489)
Teacher Initiation	3.14 (.619)	3.15 (.614)	3.20 (.726)	3.03 (.705)
	df	*MS*	*F*	*p*
Multivariate Test[a]	9/1410		7.028	.000**
Univariate Tests				
Alliance	3/470	2.826	8.094	.000**
General Parent Involvement	3/470	3.171	14.071	.000**
Teacher Initiation	3/470	.586	1.379	.249

	Contrast Results (*p values)*		
Subscales	Non-minority vs. Minority	African American vs. Hispanic	Hispanic-English vs. Hispanic-Spanish
Alliance	.713	.000**	.402
General Parent Involvement	.000**	.000**	.244
Teacher Initiation	.481	.566	.047

Note. Standard deviations were given within parentheses. [a]Pillai's Trace test was applied.

** $p<.01$.

the parent involvement subscales were significantly different and parents from different ethic groups reported their involvement differently. However, ethnic differences in parent ratings of parent involvement were not moderated by the type of parent involvement. Table 8 shows the repeated measures ANCOVA results for parent ratings of parent involvement. Figure 1 shows graphically the absence of an interaction effect of scale on parent ethnicity for parent ratings of parent involvement.

Teacher ratings. In the second repeated measures ANCOVA, the within-subjects variable was also Scale which consisted of Alliance, General Parent Involvement, and Teacher Initiation. The between-subjects variable was also parent ethnicity which was entered through the same three planned comparisons used in the first repeated measures ANCOVA. Parent education and parent employment status were also entered as covariates in the model.

Results of the second repeated measures ANCOVA indicated significant main effects of scale ($F(1.77, 832.18)=88.12$, $p <.001$, eta squared=.16) and ethnicity ($F(3, 470)=6.97$, $p <.001$, eta squared=.04) as well as a significant interaction effect of scale on parent ethnicity ($F(5.31, 832.18)=6.20$, $p <.001$, eta squared=.04) after parent education and parent employment status were controlled. That means, teacher ratings of the parent involvement subscales were significantly different and teachers differed significantly in their ratings of parents from different ethnic groups. In addition, ethnic differences in parent involvement as reported by teachers were moderated by the type of involvement. Contrast results indicated that the primary source of group differences in the teacher-rated parent involvement measure came from the difference between

Table 8

Analysis of Covariance for Parent Ratings of Parent Involvement

Source	*df*	*F*	η^2	*p*
		Between subjects		
Education (Ed)	1	8.350	.019	.004**
Employment (Em)	1	1.482	.003	.224
Ethnicity (Et)	3	4.977	.033	.002**
Error	441	(.619)		
		Within subjects[a]		
Scale (S)	2.779	159.054	.265	.000**
S X Ed	2.779	1.248	.003	.291
S X Em	2.779	2.824	.006	.042
S X Et	8.338	1.737	.012	.082
Error (S)	1225.750	(.277)		

Note. Values enclosed in parentheses represent mean square errors. [a]Due to violation of the sphericity assumption, the Greenhouse-Geisser epsilon was used to interpret the within-subjects results.

** $p < .01$.

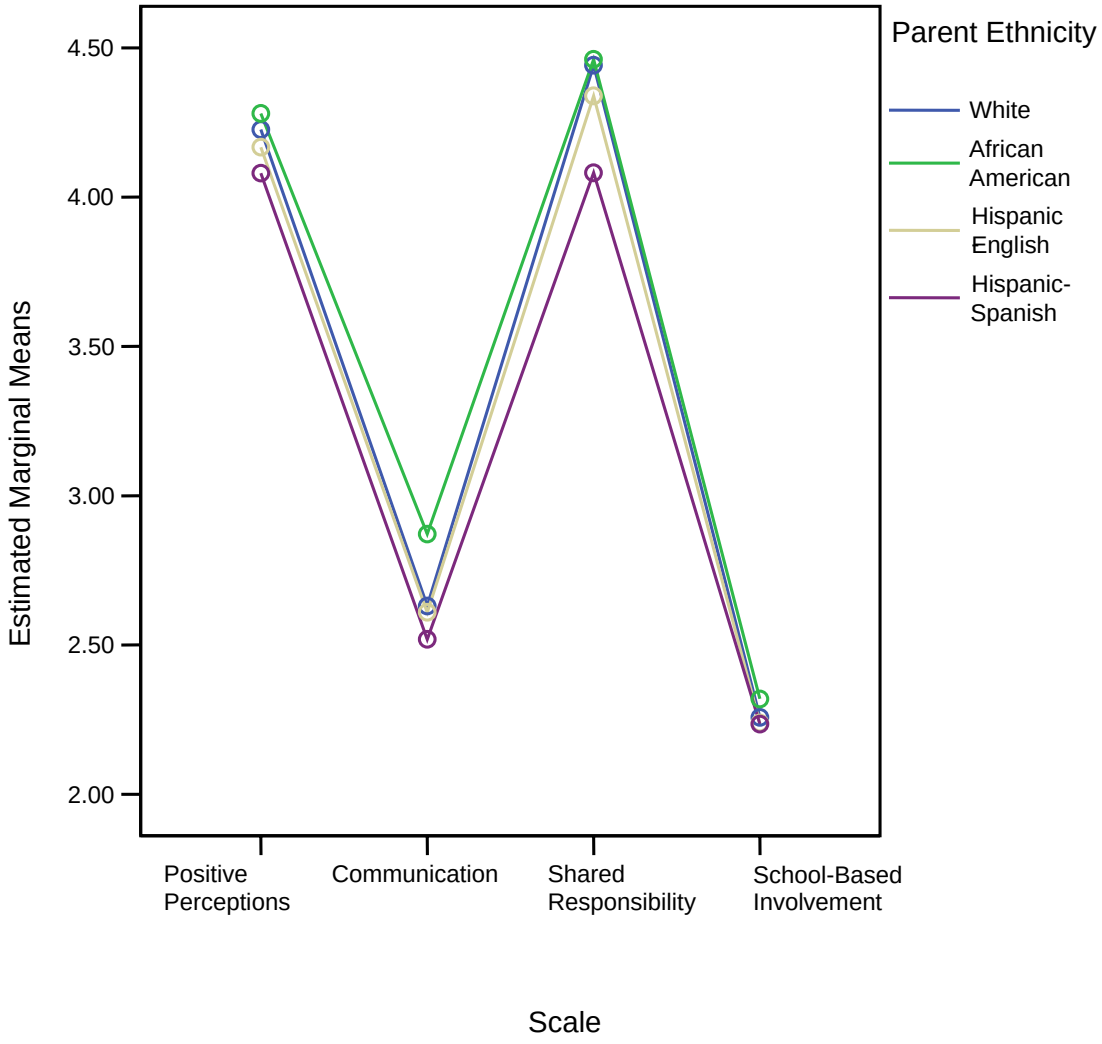

Fig. 1. The Absence of an Interaction Effect of Scale on Parent Ethnicity for Parent Ratings

African American and Hispanic parents. Table 9 shows the repeated measures ANCOVA results for teacher ratings of parent involvement. Figure 2 shows graphically the presence of an interaction effect of scale on parent ethnicity for teacher ratings of parent involvement.

In summary, current data partially supported the two research hypotheses generated for this study. As predicted, controlling for parent education and employment status, the data showed significant ethnic/racial group differences in parent-rated Communication as well as teacher-rated Alliance and General Parent Involvement. In addition, ethnic differences in parent involvement were moderated by the type of involvement scale for teacher ratings. However, contrary to prediction, no significant ethnic differences were found in parent-rated Parent School-Based Involvement whereas significant ethnic differences were noted in parent-rated Parent-Teacher Shared Responsibility. In addition, ethnic differences in parent involvement were not moderated by the type of involvement scale for parent ratings. Current results demonstrated a low correspondence between parent ratings and teacher ratings on parents' school-based involvement.

Table 9

Analysis of Covariance for Teacher Ratings of Parent Involvement

Source	*df*	*F*	η^2	*p*
		Between subjects		
Education (Ed)	1	2.628	.006	.106
Employment (Em)	1	3.046	.006	.082
Ethnicity (Et)	3	6.970	.043	.000**
Error	470	(.505)		
		Within subjects[a]		
Scale (S)	1.771	88.115	.158	.000**
S X Ed	1.771	5.743	.012	.005**
S X Em	1.771	1.362	.003	.256
S X Et	5.132	6.197	.038	.000**
Error (S)	832.178	(.279)		

Note. Values enclosed in parentheses represent mean square errors. [a]Due to violation of the sphericity assumption, the Greenhouse-Geisser epsilon was used to interpret the within-subjects results.

** $p < .01$.

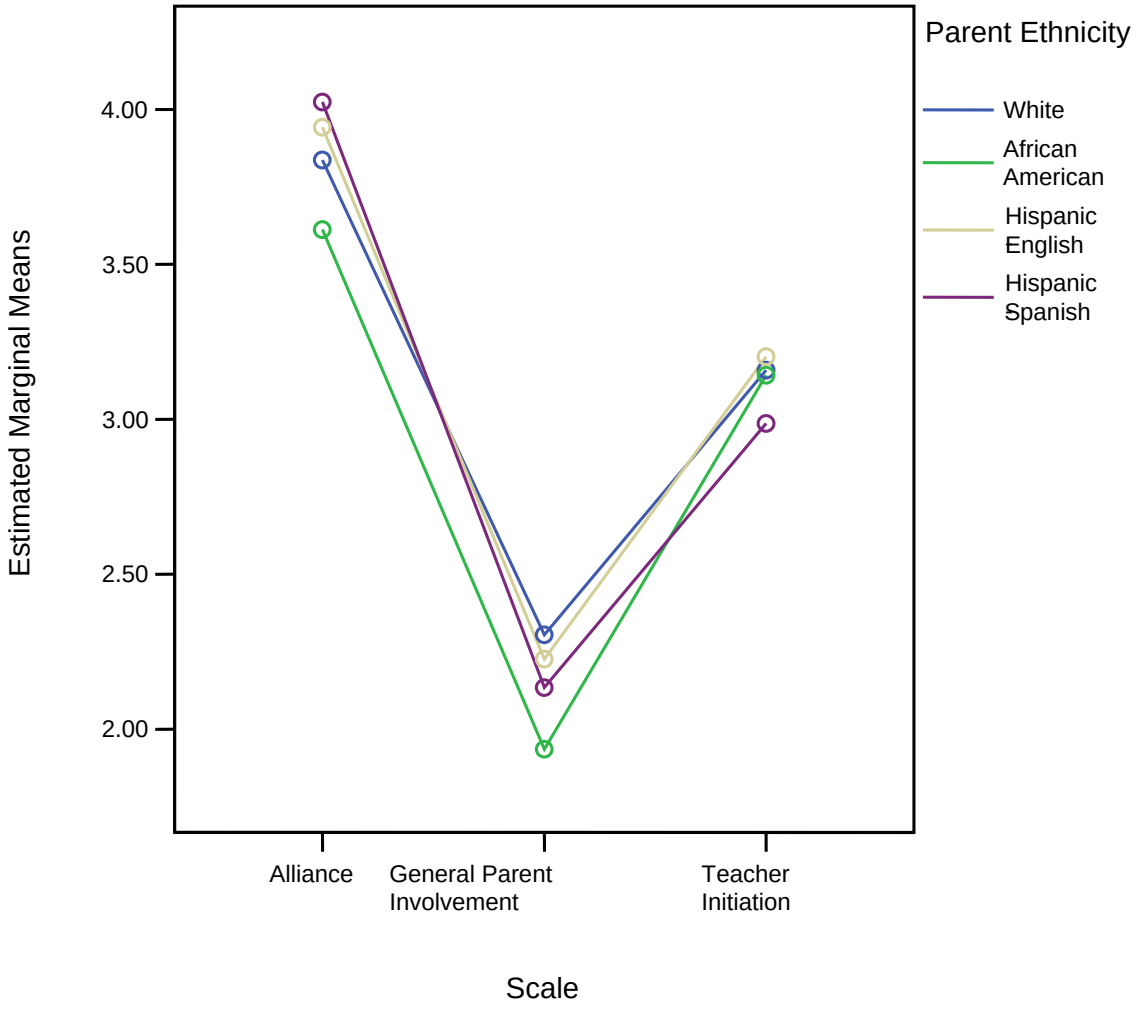

Fig. 2. The Presence of an Interaction Effect of Scale on Parent Ethnicity for Teacher Ratings

CHAPTER V

DISCUSSION

The purpose of this study was to investigate ethnic group differences on different dimensions of parent-rated and teacher-rated parent involvement after adjusting for the influence of family socioeconomic factors, and the role of involvement scale in moderating ethnic differences in parent involvement.

Ethnic Differences in Parent Involvement

The first research question of the current study was aimed to explore ethnic differences in parent-rated and teacher-rated parent involvement after taking into account the influence of family socioeconomic factors (parent education and parent employment status). My first hypothesis that ethnic groups differ in both parent-rated and teacher-rated parent involvement, particularly on parent-rated Communication and Parent School-Based Involvement as well as teacher-rated Alliance and General Parent Involvement, was partially supported by the data. As predicted, the data showed significant ethnic/racial group differences in Communication (parent-rated), Alliance (teacher-rated), and General Parent Involvement (teacher-rated).

Consistent with past research (e.g., Bauch, 1993; Costas, 1991; Kohl et al, 1994), African American parents reported a significantly higher level of Communication (parent-rated) than Hispanic parents. Current results support previous findings that African American parents communicate more frequently with teachers while Hispanic parents have less contact with the school (Bauch, 1993; Ritter, Mont-reynaud, & Dornbusch, 1993). This is probably because African American parents tend to take a

more active approach in their children's education (Bauch, 1993; Fordham & Ogbu, 1986; Fordham, 1996) whereas Hispanic parents tend to be more deferential, more trusting, and less comfortable with teachers and schools (Ritter, Mont-Reynaud, & Dornbusch, 1993).

In contrast, teacher ratings of parent involvement demonstrated an inconsistent pattern: Whereas teachers rated White and Hispanic parents the highest on General Parent Involvement and Alliance, respectively, African American parents were rated the lowest on these two measures. No noted ethnic differences were found on Teacher Initiation. That means, teachers reported making similar amount of effort to get parents involved in their children's education regardless of parents' ethnic background. However, based on teacher reports, parent from different ethnic groups responded differently. More specifically, Hispanic and White parents tend to form a better alliance with the teachers than African American parents. In addition, White and Hispanic parents tend to be more involved in general (i.e., making contact with the school and participating in various school events) than African American parents although the level of participation across ethnic groups was rather low (mean levels =1.94-2.33 out of a maximum level of 5.0).

Current results demonstrate a low correspondence between parent ratings and teacher ratings on parents' school-based involvement. Although both parents and teachers reported similarly low levels of parents' school-related involvement, no significant ethnic differences were found in parent ratings whereas significant ethnic differences were noted in teacher ratings. Whereas current results support some earlier

findings based on parent report (e.g., Seefeldt, Denton, Galper, & Younoszai, 1998; Zellman & Waterman, 1998) that parent ethnicity plays an insignificant role in predicting school-related parent involvement, especially when SES was controlled, current findings also support previous findings based on teacher report (e.g., Kohl et al., 1994) that minority status was associated with a decrease in the amount and quality of parent involvement. The low correspondence between parent and teacher reports may be a result of noncomparability of items across sources or perceptual differences among sources (Reynolds, 1992). Whereas noncomparability of items across sources may be amendable by complex statistical techniques, perceptual differences among sources are more susceptible to subjective judgments. The availability or the lack of complete and reliable records may affect the accuracy of reported information. Existing parent involvement literature indicates that teachers often provide valid reports for parent school involvement, particularly with young children (e.g., Entwisle & Hayduk, 1982). This is possibly due to the higher tendency to use more reliable record keeping among teachers (e.g., calendars, memorandum, activity records, home-school communication logs). In contrast, parents, particularly less educated parents, tend to rely on memory and incomplete records which render their report of school involvement less reliable.

Current findings demonstrate significant ethnic differences in teacher ratings of alliance between parents and teachers. Cultural differences among minority groups may contribute to differences in the ways parents relate to school. For example, African American parents tend to take a proactive approach in involving themselves in their children's education than the other minority parents. Their involvement strategies are

possibly based on the strong beliefs about accountability and the ideology of getting ahead through collective struggle (Bauch, 1993; Fordham & Ogbu, 1986; Fordham, 1996). Such a proactive approach may be viewed as confrontational and offensive by non-African American teachers, especially when African American parents and non-African American teachers differ in their perceptions of the problems of the child and the appropriate interventions required. As a result, a mutually respectful and trusting alliance between African American parents and non-African American teachers may be harder to establish. In contrast, Hispanic parents tend to adopt a more deferential and trusting attitude towards the teachers (Ritter, Mont-Reynaud, & Dornbusch, 1993). Non-Hispanic teachers, in particular, may find Hispanic parents relatively more compliant and less challenging to deal with. As a result, a mutually respectful and trusting alliance between Hispanic parents and non-Hispanic teachers may be easier to establish.

Three other interesting findings generated from the data are worth discussing. First, contrary to prediction, ethnic differences were found on parent-rated Parent-Teacher Shared Responsibility after controlling for the influence of parent education and parent employment status. This involvement subscale is made up of items that relate to parent's perceived responsibility in solving their child's learning and behavior problems at school, their perceived self-efficacy in helping their child at home, and assistance provided to the child at home regarding homework and difficult subjects. Past research findings on parent report of home-based involvement are somewhat inconsistent. While some researchers reported similar levels of home-based involvement across minority and majority parents (e.g., Chavkin & Williams, 1993), other researchers found African

American parents more involved with their children at home than White and Hispanic parents (Keith et al., 1993; Ho & Willms, 1996; Sheldon, 2002; Watkins, 1997). However, these studies have not taken into account of the possible impact of SES (e.g., parent education) on parent report of home-based involvement. Some investigators (e.g., Fan, 2001; Hill & Craft, 2003) have cautioned researchers that because of the close association between ethnicity and SES, observed differences in parent involvement among certain ethnic and racial groups may be partially explained by SES. In the current study, the two covariates (parent education and parent employment status) demonstrate statistically significant influence on parent report of Parent-Teacher Shared Responsibility. However, parent ethnicity provides statistically significant incremental influence on this involvement subscale. That means, parents from different ethnic and racial background do differ in their perceptions of their role, ability, and actual effort made to help their child to learn and behave appropriately when the influence of their education and employment situation are held constant.

Current findings indicate that majority parents reported a significantly higher level of Parent-Teacher Shared Responsibility than minority parents. However, noted differences were found among and within minority parent groups. More specifically, African American parents reported a higher level of Shared Responsibility than Hispanic parents while English-speaking Hispanic parents reported a higher level of Shared Responsibility than Spanish-speaking Hispanic parents. The additive conclusion of these findings is that Spanish-speaking Hispanic parents reported a significantly lower level of Shared Responsibility than the other three parent groups. That is to say, the low ratings

of Spanish-speaking Hispanic parents account for the largest portion of the between group differences on parent-rated Parent-Teacher Shared Responsibility. This might be related to a possible lack of requisite language and instructional skills or familiarity with the American curriculum of Spanish-speaking Hispanic parents (most likely of immigrant status) who may find themselves ineffective to assist with their children's homework assignments which are often presented in English (Floyd, 1998; Moles, 1993; Sosa, 1997). This finding is important in that it reminds administrators and teachers working with minority, particularly Hispanic, parents to acknowledge the subtle differences in strengths and weaknesses within ethnic and racial subgroups so as to identify the most appropriate measures to enhance their involvement.

Second, English-speaking and Spanish-speaking Hispanic parents demonstrated similar levels of participation across many aspects of parent involvement based on parent and teacher reports, except on parent-rated Parent-Teacher Shared Responsibility as discussed above, after adjusting for the influence of parent education and parent employment status. Follow-up investigations indicate that parent education exerts statistically significant impact on both parent-rated Communication and Shared Responsibility whereas parent employment status has an insignificant impact on all involvement subscales. That means, parent education level rather than language ability or employment status contributes to the observed difference between English-speaking and Spanish-speaking Hispanic parents in communicating with the school whereas language ability, above and beyond parent education, accounts for a significant portion

of the observed difference between English-speaking and Spanish-speaking Hispanic parents in helping their child at home.

Current results partially supports the finding of Ritter, Mont-Reynaud, and Dornbusch (1993) that parents within each ethnic group, particularly Hispanic, demonstrate different levels of involvement as a function of parent education level. In the current study, within-group differences in parent education and SES do not seem to affect Hispanic parents' positive perception about school (parent-rated), alliance with teachers (teacher-rated), teacher initiation of involvement opportunities (teacher-rated), school-based involvement (parent-rated), and general parent involvement (teacher-rated). However, within-group differences in language ability and parent education do account for the significant difference between English-speaking and Spanish-speaking Hispanic parents in communicating with the school and sharing responsibility with teachers in educating their children. This is probably because the relatively less educated Spanish-speaking Hispanic parents may feel uncomfortable communicating with the school and find themselves less effective in helping their child at home due to a lack of the requisite language and instructional skills or familiarity with the curriculum as discussed above (Floyd, 1998; Moles, 1993; Sosa, 1997).

Lastly, whereas African American parents reported the highest, though not statistically significant, positive perceptions of their involvement in their children's education, teachers reported their lowest alliance with African American parents and rated African American parents the lowest among the four racial/ethnic groups in terms of general parent involvement. Consistent with previous research findings (e.g., Crocker

& Major, 1989; Zakriski & Coie, 1996), the discrepancies between parent and teacher reports may be a reflection of the African American parents' tendency to report overly positive perceptions of their school involvement. It was suggested that African American subjects tend to be more enhancing and report more positive ratings in order to maintain their self-esteem (Crocker & Major, 1989; Zakriski & Coie, 1996).

Moderation Effect of Scale on Parent Ethnicity

The second research question of the current study was aimed to explore a possible moderation effect of type of involvement on ethnic differences in parent-rated and teacher-rated parent involvement after taking into account of the influence of family socioeconomic factors (parent education and parent employment status). My second hypothesis that a significant interaction between ethnic group membership and the parent involvement dimension qualifies the main effect of ethnicity on parent involvement was only partially supported by the data. As predicted, ethnic differences in parent involvement were moderated by the type of involvement for teacher ratings. However, a similar moderation effect was not found for parent ratings. That means, parents tend to view differences in parent involvement in a consistent manner regardless of the dimension of involvement. However, teachers are able to view differences in parent involvement depending on the type of involvement opportunity. This is probably because teachers, as compared to parents, may have a heightened awareness of a possible variety of opportunities to get parents involved and tend to make a deliberate effort. They tend to have more accurate school-related involvement information to compare parents from different ethnic and racial background. In contrast, parents may

not make a conscious effort to keep track of their own involvement. They may not have adequate information to differentiate their involvement in different involvement dimensions.

Implications

The current results generate a number of useful implications. First, current results suggest that parents and teachers tend to report parent involvement differently. According to current literature, teachers may not be able to provide accurate reports for parent home-based involvement; however, they often provide valid reports for school involvement, and usually produce the strongest effects on achievement (Baker, Kessler-Sklar, Piotrkowski, & Parker, 1999; Entwisle & Hayduk, 1982; Reynolds, 1989, 1992; Stevenson & Baker, 1987). Thus, unless home-based involvement is being assessed, teacher report should be used because it tends to have more predictive power, and demonstrates more developmental significance. Second, current results suggest low levels of alliance and general parent involvement of African American parents based on teacher reports. In view of the possible incompatibility of problem solving styles between African American parents and non-African American teachers, it is recommended that teachers take the initiative to increase awareness and acceptance of cultural and socioeconomic differences with parents coming from different ethnic backgrounds so that parent-teacher alliance can be successfully established and school involvement can be enhanced. Last but not least, current results suggest that parent involvement of Spanish-speaking Hispanic parents is uniformly low. In particular, the lower education level, English proficiency, and acculturation level may inhibit Spanish-

speaking Hispanic parents from effectively in home learning. Increased assistance in promoting self-efficacy, acquiring requisite language and instructional skills, as well as integrating smoothly into the mainstream culture is highly recommended. This goal may be achieved through the provision of parent education, organization of parent exchange groups, and referral to existing community resources.

Limitations

The findings of the current study, while informative, are also limited in certain respects. First, contrasted with most of the previous parent involvement studies, participants in this current study are parents and teachers of first grade children who are identified as at risk of academic failure. Due to the limited range of achievement scores represented, the sample is somehow limited and it may result in an underestimation of ethnic group differences in parent involvement, particularly between majority and minority parents. If the complete possible range of achievement scores is represented, larger group differences in parent involvement between majority and minority parents may have been found, since White students generally score higher on achievement tests and parent involvement is positively associated with student achievement. However, it should be noted that although the current sample is below their respective district median literacy scores, it does not necessarily mean that they are below grade-level or age-level norms for literacy. Indeed, current sample's average score on Woodcock Johnson Achievement Test III was around 100, which is within the Average range. Second, the parent sample involves only White, African American, and Hispanic parents. Current results may not be generalizable to parents from other ethnic groups (e.g., Asian

American, Native American). Third, a significant proportion of parents and teachers did not return questionnaires. Children with complete parent and teacher data differed from children with incomplete parent and teacher data in terms of child ethnicity, family language, economic status, parent education, and teachers' Spanish-speaking abilities. This attrition bias limits the generalizability of current findings to some extent. Lastly, ethnic group differences in parent involvement could vary as a function of school involvement practices. However, we did not assess actual parent involvement practices at school (e.g., a home specialist). Thus, direct appraisal of the effectiveness of school involvement practices is not possible.

Future Research

While the current study provides a step in further the understanding of the role of involvement scale on ethnic differences in parent involvement, further research is warranted. More specifically, future research will benefit from involving children of different levels of achievement (below average, average, and above average) to explore possible ethnic differences in parent involvement as a function of child achievement level. In addition, future research can explore the moderating effect of parents' reasons for involvement (e.g., academic success/difficulties and behavioral success/difficulties) and satisfaction of involvement on ethnic differences in parent involvement. Furthermore, future research will benefit from expanding parent samples to include some major under-investigated parent groups (e.g., Asian American, Native American) to further our understanding of the strengths and limitations of these parents so as to develop more culturally relevant interventions to enhance their involvement. Last but not

least, future research will benefit from the use of longitudinal data to explore the direction and magnitude of change in parent involvement as a function of change in child, parent, or teacher characteristics. Special attention should be directed to change in specific parent involvement dimensions and their associations with observed child outcomes. Only through good research designs with consistent definition and measurement of the parent involvement construct can we gain an increasingly lucid picture of parent involvement across time and settings.

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APPENDIX A

FACTOR LOADINGS, MEANS AND STANDARD DEVIATIONS FOR EACH PIEY-P ITEM AND EIGENVALUE, EXPLAINED VARIANCE AND CRONBACH'S ALPHA FOR THE FOUR FACTORS (N=255)

	Factor Loadings					
Factor/Item	F1	F2	F3	F4	*M*	*SD*
Factor 1 (Positive Perceptions about School)						
13. Parent feels child's teacher cares about child	**.82**	.33	0	0	4.22	.95
26. Child's school is doing a good job of preparing children for their futures	**.81**	-.18	.16	.17	4.36	.79
25. Parent has confidence in people at child's school	**.80**	-.24	.15	.18	4.39	.72
23. Child's school is a good place for child to be	**.80**	-.26	.12	.19	4.53	.66
24. Staff at child's school is doing good things for child	**.79**	-.27	.12	.15	4.45	.67
16. Parents feels child's teacher pays attention to parent's suggestions	**.76**	.40	0	0	3.88	1.07
15. Parent feels comfortable talking with child's teacher about child	**.75**	.46	0	0	4.23	.99
12. Parent enjoys talking with child's teacher	**.74**	.48	.10	0	4.17	10
14. Parent thinks child's teacher is interested in getting to know parent	**.71**	.45	0	0	3.63	1.18
11. Parent feels welcome to visit child's school	**.66**	0	.14	0	4.36	.86
Factor 2 (Communication)						
2. Child's teacher has called parent	0	**.61**	.13	.22	2.06	.84
17. Parent asks child's teacher questions or make suggestions about child	.26	**.61**	.25	0	3.72	1.10
3. Parent has written child's teacher	0	**.57**	.17	.15	2.40	.97
1. Parent has called child's teacher	0	**.55**	.16	.32	2.22	.93
4. Child's teacher has written parent	0	**.54**	0	0	2.98	1.06
Factor 3 (Parent-Teacher Shared Responsibility)						
28. Parent is responsible for solving child's learning problem at school	.10	.15	**.70**	0	4.50	.69
30. Parent is responsible for solving child's behavior problem at school	.15	.16	**.67**	0	4.70	.65
21. Parent makes sure that child gets homework done	0	0	**.62**	0	4.69	.62
27. Parent makes a difference in child's success at school	0	.12	**.60**	0	4.56	.79
19. Parent helps child at home with subjects that child has difficulty	0	0	**.56**	0	4.33	.87
32. Parent is prepared to help child	0	-.10	**.53**	.14	4.27	.87
29. Teacher is responsible for solving child's learning problem at school	.15	.17	**.46**	-.11	4.25	.77
31. Teacher is responsible for solving child's behavior problem at school	0	.15	**.43**	0	3.93	.94

Appendix A Continued

Factor/Item	Factor Loadings				*M*	*SD*
	F1	F2	F3	F4		
Factor 4 (Parent School-Based Involvement)						
7. Parent has visited child's school for a special event	0	.21	0	**.79**	2.50	.79
9. Parent has attended a parent-teacher conference	0	.19	0	**.77**	2.17	.67
8. Parent has been invited to attend a parent-teacher conference	0	0	0	**.69**	2.30	.68
6. Parent has been invited to child's school for a special event	.14	.12	.14	**.59**	2.68	.80
10. Parent has attended PTA/PTO meetings	.15	0	.15	**.48**	1.61	.78
22. Parent volunteers at child's school	.20	.23	.29	**.44**	2.32	1.32
Eigenvalue	6.15	3.33	3.28	3.15		
% Explained Variance	19.2	10.4	10.3	9.8		
Cronbach's Alpha	.93	.72	.72	.72		

APPENDIX B

FACTOR LOADINGS, MEANS AND STANDARD DEVIATIONS FOR EACH PIEY-T ITEM AND EIGENVALUE, EXPLAINED VARIANCE AND CRONBACH'S ALPHA FOR THE THREE FACTORS (N=675)

	Factor Loadings				
Factor/Item	F1	F2	F3	M	SD
Factor 1 (Alliance)					
18. Teacher Can Talk To And Feel Heard By Parent	**.86**	.18	.03	3.97	.94
15. .Mutual Understanding	**.86**	.15	.05	3.97	.92
20 . Parent Has Shared Goals With School	**.85**	.20	-.07	3.93	1.03
16 . Similar Expectations of Child	**.85**	.16	-.05	3.96	1.02
14 . Parent Respects Teacher	**.83**	.09	.03	4.17	.77
19 . Teacher Comfortable Discussing Child Problems With Parent	**.78**	.06	.08	4.22	.82
13 . Teacher Respects Parent	**.77**	.06	-.03	4.23	.86
12 . Difficult Communication (reversed coding)	**.65**	.19	-.00	3.95	1.16
Factor 2 (General Parent Involvement)					
26 . How Often Parent Volunteers At School	.30	**.69**	.01	1.71	1.12
5 . Parent Stopped By To Talk To Teacher	.28	**.68**	.18	2.38	.96
11 . Parent Has Attended PTA/PTO Meetings	.29	**.67**	-.07	1.63	.70
1 . Parent Has Called Teacher	.18	**.61**	.30	2.08	.85
3 . Parent Has Written Teacher	.14	**.55**	.20	2.28	.84
6 . Parent Has Been Invited To School For A Special Event	-.02	**.47**	.11	2.71	.65
9 . Parent Has Attended A Parent- Teacher Conference	.25	**.41**	.18	1.96	.46
10 . Parent Has Been Invited To Attend PTA/PTO Meetings	-.08	**.34**	.05	2.56	.70
Factor 3 (Teacher Initiation)					
23 . How Often Teacher Tells Parent When Worried	.20	.00	**.86**	3.47	1.19
22 . How Often Teacher Tells Parent When Concerned	.18	.06	**.86**	3.75	1.06
4 . Teacher Has Written Parent	-.14	.16	**.47**	3.13	.95
8 . Parent Has Been Invited To Attend A Parent-Teacher Conference	-.18	.20	**.32**	2.16	.42
Eigenvalue	10.53	3.23	1.80		
% Explained Variance	28.91	18.05	8.59		
Cronbach's Alpha	.93	.77	.65		

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